

CONCURRENT RESOLUTION ON THE BUDGET FOR FISCAL YEAR 1988

HEARINGS

BEFORE THE

COMMITTEE ON THE BUDGET UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

FIRST SESSION

HUMAN RESOURCES

JANUARY 22, 1987 } MEDICARE/MEDICAID/CATASTROPHIC
FEBRUARY 25, 1987 } HEALTH/WELFARE REFORM

EDUCATION POLICY

JANUARY 14, 1987—VIEWS OF THE SECRETARY OF EDUCATION
FEBRUARY 17, 1987—OUTSIDE EDUCATION EXPERTS



Volume III of IV

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HUMAN RESOURCES

THURSDAY, JANUARY 22, 1987

U. S. SENATE,
COMMITTEE ON THE BUDGET,
Washington, DC.

The committee met, pursuant to notice, at 9:30 a.m., in room SD-608, Dirksen Senate Office Building, Hon. Lawton Chiles (chairman of the committee) presiding.

Present: Senators Chiles, Sasser, Exon, Simon, Conrad, Dodd, Domenici, Symms, Grassley, Danforth, and Nickles.

Staff present: Richard N. Brandon, staff director; and Kathy Deignan, group leader for human resources.

For the minority: G. William Hoagland, staff director; and Michael Carozza, senior analyst for human resources.

OPENING STATEMENT OF CHAIRMAN CHILES

Chairman CHILES. We are pleased to have you with us today.

In just a few days, the President will deliver his State of the Union Message. In that speech, I expect that he will embrace a message that some of us Democrats have been trying to get across for a long time. He's going to talk about competition and the need to recapture our vital economic vitality. I believe we'll hear the President persuade that an impatient nation is ready to move again.

It seems to me, Dr. Bowen, we can only be competitive as a nation if we all contribute as a people. We'd be wise to keep in mind that the measure of national excellence is not always who is the best, but whether we are doing the best we can.

It is a race that has a staggered start. Some begin with a broad field of opportunity in front of them, and others have hurdles that they have to cross before they can even get to the starting line. Not everybody has the inside of the track.

When you look at our population, you can tell we are growing older. That does not have to be a handicap; it can be an opportunity. As our people grow older, they want to continue to grow as individuals, and our elderly have talents that they are more than willing to share if they are helping our young people gain a step.

BUDGET MARKED WITH DISAPPOINTMENTS

Yet, to a people searching for opportunity, this budget is marked by some disappointments. You propose more money to combat infant mortality, but at the same time you propose cutting funds for teenage pregnancy programs.

It's a disappointment when we find more financial burdens placed on hospitals that serve the poor; and it's disappointing to see you take money we have appropriated for biomedical research and actually reduce the number of grants. It is a good idea to provide stable multi-year funding, but when you stabilize at reduced levels, you squander a national advantage. Biomedical research is one area that Congress has kept our national investment strong, and we have reaped the rewards in new technology and products.

It is a particular disappointment to find it is 1987, and some 21 percent of all American children live in poverty, and only about half of all those living in poverty are covered by Medicaid. We have \$13 million children now facing a struggle to maturity with a huge burden holding them down.

CATASTROPHIC HEALTH PLAN NEEDED

Now, Dr. Bowen, we've all heard that catastrophic health insurance may soon be proposed. When we consider 35 million people under the age of 65 have no health insurance at all, and millions more carry inadequate insurance—without access to Medicaid—there is an undisputable need to do something. Today, one person in six has no health insurance, and that number continues to grow.

You preside, Mr. Secretary, over a sprawling Department touching so many aspects of our national life, from income security and poverty to health and basic research.

One of the things common to many of those diverse areas is the need for adequate health care. Elderly people paying huge out-of-pocket expense who are burdened by the high cost of long-term care certainly need help. Illness or accident can devastate a working family.

Many of us on this side of the aisle have been saying the economy must grow, and to reach that goal, people must have the opportunity and incentive to work. We very much want to break the welfare cycle.

We have to do it by being bold enough to drop old ways if they don't work, and to make way for new programs to solve the problems. We can't just keep tinkering with cash benefits on the one hand, while disregarding the impact of Medicaid payments, and believe we'll discover a welfare reform.

What do you do when a working parent who is poor chooses to surrender a job to pay medical expenses because it's a better deal under welfare and Medicaid than the minimum or no health coverage available on jobs?

I am afraid this budget does not answer those tough questions or address those needs. We know you suggested catastrophic health coverage. We find it is not in the budget. The administration says it wants to improve health research, but less will be done in this budget. Yet the budget that comes from the White House still contains a deficit, according to CBO, of up to \$135 billion.

Mr. Secretary, we want to work with you for a very sound catastrophic coverage plan. We will have to be very clear about what the funding sources of that are going to be. It's been a generation since Medicare began, and we are still dealing with funding problems in that program. So let us begin this search for better health

coverage by identifying what we need to do, and how the administration is prepared to pay for it.

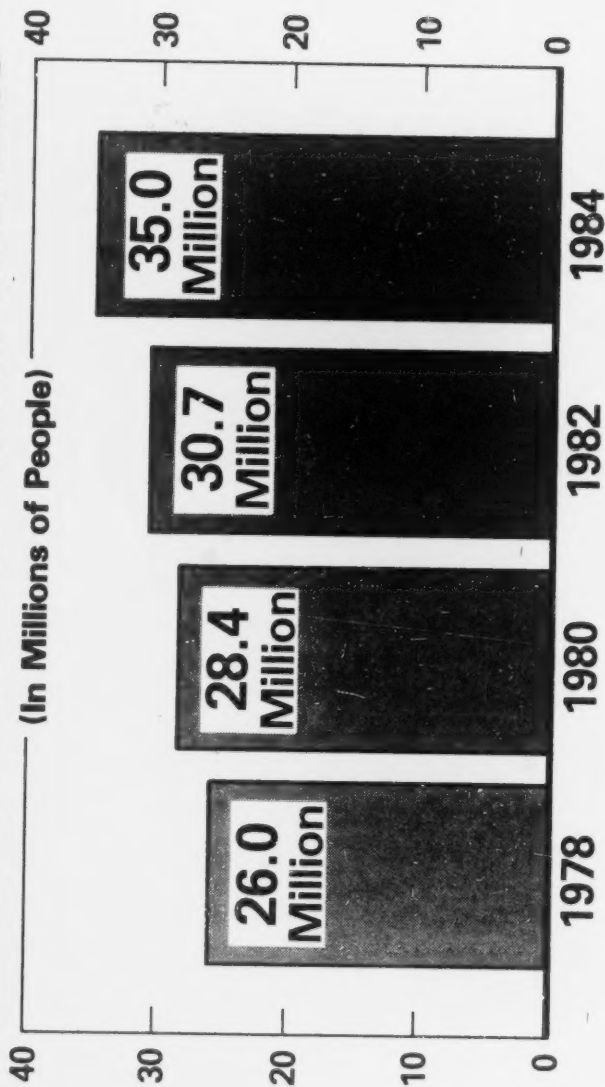
Few people are more aware than the members of this committee of the constraints imposed by the Federal budget. We cannot do everything that we would like to do as quickly as we would like to do it, but we know we must do better, and we must be more creative and thoughtful than some of the courses prescribed by your budget.

During the course of the hearing today, and the days and weeks that follow, I hope we can begin the kind of constructive examination that turns disappointments into progress, turns barriers into opportunities. If we listen to one another and work together we may yet discover the will to find that way.

AMERICANS WITHOUT HEALTH INSURANCE

Mr. Secretary, the chart that I have up there shows those Americans without health insurance. You see, that number has been rising from 1978, where we had 26 million, to 1984, where we now find that we have some 35 million of our citizens without insurance.

Americans Without Health Insurance



THE NUMBER OF AMERICANS WITHOUT HEALTH INSURANCE INCREASED BY 35 PERCENT BETWEEN 1978 AND 1984. The numbers reflect those Americans under 65 years of age. 57 percent of the adults are employed, but 36 percent of families are below the Federal poverty level of \$6,983 for two people (1984).

Prepared by Senate Budget Committee Staff, January 22, 1987

That is a tremendous figure. That is one out of six. Certainly that is something that means as they are hit by an illness, and their personal savings are wiped out, it also means that that is a tremendous burden for the rest of the people to carry as the hospitals or someone else has to pick up that load. I think that is a signal that somehow, in a country as wealthy as ours, we have tremendous problems when we can have a situation like that.

Senator Domenici.

OPENING STATEMENT OF SENATOR DOMENICI

Senator DOMENICI. Mr. Secretary, first I want to commend you for the job you are doing as Secretary, and for your past endeavors in your State and at the national scene.

I am not so sure, in the case of the Department of Health and Human Services, that we have to judge the person's job by the amount of noise they make. It seems to me you have been doing an excellent job. We haven't heard a lot of squabbles and a lot of confrontation, or at least the noise of confrontation.

However, you obviously understand that budgets are the natural time for confrontation. Everyone seems to want more but also wants to get the deficit under control. I hope you understand that does not mean that we will agree with you or disagree with you in all respects. Obviously your budget will not be accepted by the Congress in its totality, yet some of its ideas clearly will be accepted.

HOMELESS MENTALLY ILL

Personally, it seems to me that there are three areas within your jurisdiction where this country has to do better, that are new kinds of problems—problems that have been evolving. I think one is the homeless issue, particularly the mentally ill homeless.

You are now aware, as all of us are, that a very large percentage of the homeless are seriously mentally ill. We no longer can just look at those Americans and say they just choose that condition. We know in many cases that they are seriously mentally ill and have chosen to stay on the streets. I think we have to do something about it.

I commend you for an initiative you have started. You have a pilot project for community-based health care in the homelessness area for the seriously mentally ill.

I personally think we ought to do more. I am of the spirit that we have some programs on the books that are not doing the job that they were intended to, or we do not need them very much any more. We ought to get rid of them and focus on the new issues, and this is a new issue of serious magnitude.

CATASTROPHIC INSURANCE CANNOT BE IGNORED

Secondly, catastrophic health insurance—there is no question that it is the issue of our day. Something has to be done. One only has to serve in elected office as we do and go home and talk to the people to find that there is a serious void on the catastrophic side that is truly difficult for many, many people, and cannot be ignored. We know your approach to it and we commend you for it,

and we hope you will continue to be an advocate and an informed one, and to be helpful.

REFORM WELFARE PROGRAMS

And last, there is no question that while all of welfare is not within your jurisdiction, some is, and the welfare programs of this country are not working because they are not geared to today's problems. They are a part of the welfare demographics of 20 years ago; and they are part of the welfare personality, so to speak, of at least 10 years ago. We need to reform them.

That does not mean that we have to spend a lot more money, but in some instances we may have to. Clearly we are not in tune with the welfare problem, with the welfare system.

I would urge that you continue to advocate, where you can, reform and better programs. I urge that you look at the inventory of old programs, and that you not be embarrassed to pay for a new and needed program by recommending that an old one be either restrained or eliminated if it is not serving a useful purpose, or if it's not as needed as the new problem that we're trying to solve.

PROBLEMS IN MEDICARE PROGRAM

Obviously we have some real problems in this budget on the Medicare side. I hope as you answer our questions and as you take the criticism which is surely going to fall on your head for the medicare restraint in this budget—especially as it applies to rural hospitals—I hope you continue to remind this committee, and the Congress, and the people that we must find some ways to assure the solvency of the medicare trust fund.

These restraints are not all proposed because they are necessarily good programs, but there is an abiding problem about the long-term solvency of the fund. Frequently we forget about that.

Thank you, Mr. Chairman. I look forward to the Secretary's testimony.

Chairman CHILES. Thank you, sir.

Mr. Secretary, we'll let you make your statement now.

STATEMENT OF HON. OTIS R. BOWEN, SECRETARY OF HEALTH AND HUMAN SERVICES, ACCOMPANIED BY TOM BURKE, CHIEF OF STAFF, AND TONY McCANN, ASSISTANT SECRETARY FOR MANAGEMENT AND BUDGET

Secretary BOWEN. Mr. Chairman and members of the committee, it is a pleasure to have this opportunity to testify before you today on the fiscal year 1988 budget of the Department of Health and Human Services.

As you requested, I have already submitted for the record a formal statement for the committee that outlines our budget proposals in more detail.

With your permission, I would like to summarize the key elements of that statement and share with you my thoughts on the issues and the challenges that oppose us.

Chairman CHILES. The statement in full will be placed in the record.¹ We appreciate your summation.

Secretary BOWEN. As members of this committee know, this Department is the fourth largest fiscal entity in the world. Our new budget is \$13 billion higher than the level for fiscal 1987, reflecting increases in benefits, numbers of beneficiaries, and the escalating costs of health care that must be purchased for these beneficiaries.

At the same time, the budget request achieves outlay savings in comparison to current services amounting to approximately \$9 billion in the fiscal year 1988. The budget has been crafted to meet legally mandated deficit reduction targets. This budget calls for an outlay of \$361 billion for a wide variety of health, income security, and social service programs, and it amounts to 35 percent of the federal budget.

ENTITLEMENTS MAKE UP OVERWHELMING SHARE OF HHS BUDGET

Federal entitlements make up the overwhelming share of the HHS budget. Foremost among these are the social security programs with benefits amount to more than \$200 billion and accounting for almost 61 percent of the dollar outlays.

Next in magnitude is medicare, with an allocation of \$73 billion, approximately 20 percent of the budget.

Then comes medicaid, with an allocation of \$27 billion, or 7 percent.

Other entitlement programs account for \$27 billion, or 7 percent.

Discretionary programs amount to almost \$15 billion and are a mere 4 percent of the budget.

FIVE MAJOR GOALS

The budget that we are submitting to you embodies five major goals.

The first is to honor our obligations to the social security system.

The second is to improve the quality of health care for our citizens.

The third is to increase competition and efficiency in the health care industry by expanding private health plan options available to medicare beneficiaries.

The fourth is the control of health care costs.

And most importantly, the budget is designed to strengthen and enhance the future of our most basic institution, the American family.

SOCIAL SECURITY BENEFICIARIES CAN LOOK TO FUTURE

This budget honors our basic commitment to those who have worked hard and save through the Social Security System. The budget protects the current value of Social Security by providing a cost-of-living adjustment estimated at 3.5 percent in January 1988. As a result of a historic bipartisan cooperation between this Administration and the Congress, our Social Security beneficiaries can look forward to the future with confidence.

¹ See p. 11.

The financial status of the trust funds continues to improve, and under current projections, the social security trust fund balances are expected to total nearly \$377 billion by 1992.

PROPOSALS FOR HEALTH CARE SYSTEM

As a physician as well as a public servant, I take a special interest in the quality and the efficiency of our health care because I believe that they are inevitably linked. The budget contains several proposals designed to improve the quality of our health care system.

We are proposing an intensified review of health care quality by peer review organizations and want to allocate \$176 million in fiscal year 1988 for this purpose.

We are also looking for more funds to enforce quality control in the delivery of nursing home care through the State survey and certification programs. For this purpose we are asking for \$11 million more than we asked for in 1987, a 19-percent increase. We are seeking these funds for annual inspections of all nursing homes, and better conditions in the health facilities.

Finally, we are requesting \$94 million for our immunization program. This is a \$7 million increase over last year's level. I am happy to report, in this regard, that, largely through the aggressive efforts of the Centers for Disease Control, the national immunization levels have reached a new high of over 95 percent, and most childhood diseases are well under control. This money will help us achieve our goal of a 100-percent immunization rate.

The budget also contains a number of key proposals for private health plan options. We will shortly submit legislation to increase the number and the type of private prepaid plans available for enrollment by medicare beneficiaries by making a wider range of organizations eligible for medicare risk contracts.

We will also propose legislation to allow employer-based plans to assume responsibility for providing medicare benefits for their retirees in exchange for a fixed Government contract. Employers could combine the medicare payments with their premiums for annuitants to secure uniform health care coverage for their employees.

FISCAL INCENTIVE PROPOSED

Finally, we will propose legislation to provide States a fiscal incentive using a 3-year enhanced match to convert portions of their open-ended fee-for-service programs to capitated plans that will encourage more cost-effective care under medicaid. The enhanced match would cover the cost of start-up for the new capitated programs.

Of all of the current health issues confronting the nation, perhaps none is more important than the prevention and control of AIDS. While we have made impressive gains in basic research on this dreadful disease, we still have far to go before we can announce a cure.

The 1988 budget recommends a total of \$534 million to intensify the battle against AIDS. This is an increase of \$118 million, or 28 percent more than last year's level.

We cannot improve health quality without controlling health costs. The elderly and the needy beneficiaries of these programs cannot afford the higher medical care costs, and neither can the Federal, State, or local governments. We propose to attempt to hold down and reduce medicare and medicaid costs.

We have proposed reforming fundamental aspects of hospital cost management through new reimbursement policies for physicians and capital expenses, targeting funds by eliminating unnecessary reimbursements, expanding coverage to state and local employees, and ensuring that medicare does not pay for services more properly covered by a private health insurance policy.

Even with all the changes we propose in the budget, we project medicare benefits spending to continue to grow, at a rate of 8 percent. Likewise, even if the medicaid changes are adopted, the program will continue to grow at an annual rate of 4 percent.

FOCUS ON AMERICAN FAMILY

Finally, I would like to turn my attention to the area of social policy that is the central focus of all of our efforts, the American family. The late President John Kennedy, in his 1962 message to the Congress on welfare, stated that the central goal of his efforts would be to stress the integrity and preservation of the family unit. This has long been the goal of the Reagan administration, and this budget represents our commitment to taxpaying families as well as those who need our help.

We hold it as axiomatic that the basic unit of civilized society is the family. No other political or economic interest can or should compete with it. Even though the American family has been buffeted by great social and economic forces, it remains resilient.

But amidst our prosperity, too many of our families are still economically vulnerable. All of our efforts should be directed toward the liberation of those trapped in the dehumanizing cycle of poverty and dependence.

The budget we are submitting to you takes concrete steps to preserve and strengthen the integrity of the family unit. The most important of these is the promotion of selfsufficiency through productive work, opening the way for long-term financial and social stability for those in poverty who need it the most.

GROW PROGRAM PROPOSED

To this end, we propose amending welfare programs under the Social Security Act by replacing the WIN program with the GROW program, which is Greater Opportunities Through Work. We found the WIN program to be cost-ineffective; a program where a participant's chances of getting a job were no greater than those of a person coming out of the welfare system without WIN training.

This new work and training program, the GROW program, is designed to encourage young AFDC recipients to stay in school; and for older AFDC recipients, it will promote work, training and remedial education. This best serves the cause of increased productivity and better conditions for many American workers. We believe that an aggressive child support collections program is a strong pro-family initiative, and we expect the states to achieve child support

collections totalling almost \$4 billion in fiscal year 1988, which is up from \$3.5 billion in 1987.

We are also proposing a new initiative aimed at protecting infants, the most vulnerable members of the American family. We propose to reduce infant mortality by establishing a new system of medicaid demonstration projects targeted at pregnant women at high risk of having low birth weight babies. We propose to spend \$85 million for this vital program.

The budget we are submitting for your consideration represents our best efforts to strike a balance between the needs of our citizens, especially those who are most in need, and the unavoidable requirements of fiscal restraint. We are committed to providing the best possible service at the least possible cost for both beneficiaries and taxpayers. You know, as I do, the universal difficulty in resolving these competing demands in a fair and a just fashion.

In summary, Mr. Chairman, we believe that our budget proposals are fair, they are compassionate, and they are in accord with deficit-reduction goals established by Congress. In carrying out our mutual responsibilities in service to the public, I look forward to working with this committee.

Chairman CHILES. Thank you very much, Mr. Secretary.

[The prepared statement of Secretary Bowen follows:]

STATEMENT

BY

OTIS R. BOWEN, M.D.

SECRETARY OF HEALTH AND HUMAN SERVICES

BEFORE THE

COMMITTEE ON BUDGET

UNITED STATES SENATE

THURSDAY, JANUARY 22, 1987

Mr. Chairman and Members of the Committee:

I am here today to present to you the fiscal year 1988 budget for the Department of Health and Human Services.

This budget is a plan which maintains our national commitments in health, income support and social services, while it continues our progress toward government that will work better for all of us -- beneficiary, service provider, and tax payer alike.

This plan establishes clear priorities for health and human services that include:

- o Protecting Social Security and Supplemental Security Income benefits by providing a cost-of-living adjustment estimated at 3.5 percent in January 1988.
- o Increasing competition and efficiency in the health care industry by expanding private health plan options available to Medicare beneficiaries including employer-based plans.
- o Improving health care quality through intensified reviews by Peer Review Organizations, a 19 percent increase in funding for the State Survey and Certification program, and other measures.

- o Limiting through Medicare reforms unwarranted health care spending that is projected to rise at an average rate of over 10 percent per year.
- o Strengthening the future of the American family by promoting self-sufficiency through work and a new initiative aimed at reducing infant mortality.
- o Increasing spending for Acquired Immune Deficiency Syndrome (AIDS) by 28 percent to accelerate progress in the search for a treatment and cure.

The budget also meets the strict test of deficit reduction. In order to meet the Gramm-Rudman-Hollings deficit reduction target for 1988, the President's Budget proposes programmatic and revenue changes amounting to \$42.4 billion. My Department's share of that reduction is \$12.0 billion or 28 percent of total.

Despite the size of these deficit reduction measures, HHS will spend a total of \$361.3 billion in 1988, an increase of 3.8 percent over 1987. Moreover, even after the extensive reforms proposed in this budget to curb the rapidly escalating costs of the Medicare program, we estimate that Medicare will continue to grow at an average rate of almost 8 percent a year -- well above the expected rate of increase of the medical care component of the consumer price index.

The following provides a more detailed overview of this budget by function.

EDUCATION, TRAINING
EMPLOYMENT AND SOCIAL SERVICES
(Function 500)

The HHS budget includes budget authority of \$6.9 billion under function 500, primarily for the social services activities of the Office of Human Development Services (OHDS).

BLOCK GRANTS

The 1988 budget request provides for the Social Services Block Grant at the full authorization level of \$2.7 billion. The Community Services Block Grant and discretionary activities are budgeted at \$210 million. In 1988, States will begin a process of phasing down their dependency on this program. During the four-year phase-out period, local grantees should have adequate time to find funding from other Federal, State, local and private sources to support their highest priority and most effective community service activities.

SOCIAL SERVICES DISCRETIONARY ACTIVITIES

The 1988 budget includes a request of \$2.2 billion for all of the discretionary social services activities administered by OHDS. This request includes funding for 26 distinct programs.

Priority will continue to be placed on Head Start, Child Welfare Services, Aging services and nutrition programs, Developmental Disabilities grant programs, and financial assistance grants for Native Americans. The Department intends to increase Head Start \$20 million above the 1987 program level. Specific funding levels for other programs will be determined based on the best opportunities to serve children, older Americans, the developmentally disabled, and Native Americans.

FAMILY SOCIAL SERVICES

The 1988 budget requests a total of \$682 million for the foster care and adoption assistance programs aimed at keeping families together or supporting other appropriate living arrangements when reunification of children and families is not possible.

Five discretionary programs formally funded under the Family Social Services account (Child Welfare Services, Child Welfare Training, Child Welfare Research and Demonstration Projects, Adoption Opportunities, and Social Services Research) have been requested as part of the generic appropriation request for social services discretionary activities under the Human Development Services account.

The request for foster care and adoption assistance includes a legislative proposal aimed at controlling State administrative and training costs, by limiting these costs to 50 percent of the amount reimbursed for maintenance payments under each program. Without this change, we would spend 60¢ in State administrative costs for every dollar devoted to the support of children. This legislation is estimated to save \$84 million in 1988, and would not reduce payments to families.

In addition, a 1987 supplemental request is proposed to provide \$127 million for foster care prior-year claims and \$38 million for adoption assistance prior-year claims and additional 1987 program costs. Funds for this supplemental will be partially offset by reallocating \$122 million from other OHDS programs (independent living, child welfare services, aging research, and Title XX unobligated balances). The remaining \$43 million is requested in new budget authority.

WORK INCENTIVES

In 1988, no funds are requested for the Work Incentives (WIN) program, consistent with the Congress' decision to provide only \$103 million for transitional closeout funding in 1987. This budget includes a legislative proposal to establish a Greater Opportunities through Work (GROW) program under the Aid to Families with Dependent Children program. This new program would stress the employability and self-sufficiency of welfare

recipients. The proposal recognizes the importance of completing a high school level of education for both teens and adults. A more complete description of this proposal follows in the income security section. In addition, States would be given flexibility to continue successful work alternatives now being run under the WIN demonstration authority.

STATE LEGALIZATION IMPACT ASSISTANCE GRANTS (IMMIGRATION REFORM)

The Immigration Reform and Control Act of 1986 (IRCA) established an interim program of grants to States to assist with their costs of providing financial medical and educational assistance to newly legalized aliens for the period 1988-91. We estimate that States will receive \$928 million of the \$1 billion appropriated for this program in 1988. This amount reflects authorized allocations for Federal administrative costs, and for the Federal share of costs in programs (primarily Medicaid and Food Stamps) for which these newly legalized aliens are eligible. This latter allocation is limited by statute to \$70 million in 1988, with adjustments to be made in each subsequent year based on actual Federal expenditures. We estimate that services will be available to 1.5 million aliens from the \$928 million in State grants.

HEALTH

(Function 550)

The Department's Medicaid and discretionary health programs are included in this function. The budget requests outlays of \$37.1 billion for these programs in 1988.

FEDERAL ASSISTANCE TO STATE MEDICAID PROGRAMS

Taken together, the States and the Federal government are estimated to spend about \$48.4 billion in FY 1988 on State Medicaid programs under this budget proposal, which includes a \$1.3 billion reduction in Federal matching grants to States. The budget proposals would stem the rate of growth in the Medicaid program and provide States with an incentive to adopt new cost-containment and efficiency measures. Without these proposals, the budget is expected to grow at a rate of approximately 8.5 percent between 1988 and 1992, or 1.7 times the rate of medical inflation.

Medical Assistance Payments

Medical assistance payments to States in 1988 would be limited to \$25.4 billion. This represents a \$1.3 billion reduction below current spending projections. States would continue to receive matching Federal payments but only up to each State's individual growth limit. Federal spending in

future years would be limited to inflationary adjustments as measured by the Medical Care Component of the Consumer Price Index.

We are also proposing a separate one-time \$300 million contingency fund in 1988. This fund would be available for States which have costs above their limit despite aggressive measures to control costs.

By replacing the present system of open-ended payments to States, these reimbursement limits should assist States in adopting new and innovative measures of managing their programs. A number of legislative measures will also be proposed to enhance State flexibility in operating their programs. Measures would include such things as: the ability to target services to specific groups; and the ability to provide services on less than a statewide basis.

Medicaid Administrative Costs

The 1988 budget also proposes to eliminate all special matching rates for State and local administrative costs. All Medicaid administrative activities would be matched at the general administrative match rate of 50 percent. These special subsidies are no longer necessary. A uniform matching rate would greatly simplify the administration of this program and encourage States to allocate costs efficiently.

Matching rates would also be reduced for States with excessively high per recipient administrative costs (e.g., costs above 135 percent of the national median).

These administrative cost proposals would save \$275 million in 1988. Related proposals have been advanced for the AFDC, child support enforcement, and food stamp programs.

Prepaid Health Service Delivery Systems

In addition, several Medicaid legislative proposals will give States the incentive and greater opportunity to expand the use of health maintenance organizations and other forms of prepaid health service delivery systems. These include the following:

- o Medicaid Capitation Projects: We propose that beginning in 1988, States be offered financial incentives to make more extensive use of prepaid health service delivery systems. For each new capitation project, the Federal matching rate would be increased three percentage points in the first year, two percentage points in the second year, and one percentage point in the third year.

- o Medicaid for State-qualified HMO's: States would have the option of extending Medicaid eligibility for up to six months to HMO enrollees in State-qualified HMO's. Currently, only Federally-qualified HMO's have this option.
- o HMO requirements for Health Insuring Organizations: The Medicaid requirement that health insuring organizations contracting with Medicaid meet HMO standards would be repealed. This change would produce savings of \$5 million in 1988.

Infant Mortality Initiative

Beginning in 1988, the Department will undertake a major initiative to provide comprehensive case management services to pregnant women, including those who are at high risk of having low birth weight children and teenage pregnancies. This will be done through demonstration projects under Medicaid which will be coordinated with the delivery of services through other Federal programs such as Community Health Centers, the Maternal and Child Health Block Grant, and Women, Infants and Children program. Funding of \$85 million for this initiative would be made available through the reduction of the special matching rate for family planning services.

DISCRETIONARY HEALTH PROGRAMS

For the discretionary health programs of the Public Health Service (PHS) in 1988, we are requesting a program operations level of \$10.4 billion, including \$10.2 billion in outlays.

Three key elements comprise nearly 75 percent of the PHS budget for 1988: \$6 billion for health research programs; \$1.2 billion for health block grants to the States; and \$534 million for research and prevention efforts against Acquired Immune Deficiency Syndrome (AIDS), an increase of \$118 million, or 28 percent, over the 1987 level.

Health Research

The 1988 request includes \$5.5 billion in program operations for the National Institutes of Health (NIH) and \$494 million for the Alcohol, Drug Abuse and Mental Health Administration (ADAMHA) which will continue support for basic biomedical and behavioral research that will be translated into future long-term improvements in medical care and the health of the American people.

The principal element of the request is \$3.1 billion for the support of over 19,000 research projects in NIH in both 1987 and 1988. While the 1987 appropriation provided a 17 percent increase in research funding over 1986, such a large increase, especially in research project grants, cannot be sustained without significant displacement of other activities.

Therefore, to maintain a balanced program and, at the same time, respond to the public demand for deficit control, NIH proposes to extend the availability of \$334 million of the increased 1987 appropriations into 1988. This approach will provide stable funding for research projects in both years at levels which are the highest ever achieved by NIH. In addition, the other NIH activities, such as research centers, contracts, training, and intramural research, will be funded at \$2.5 billion in 1988, approximately the same level as in 1987.

Similarly, the ADAMHA budget requests \$361 million to support approximately 1,600 research project awards in 1988. Of this amount, \$5 million is proposed to be derived from extending the availability of a portion of the increased 1987 research funds.

Health Block Grants

A total of \$1.2 billion is included in the 1988 budget for four health block grants. These funds serve as a principal means for assisting the States in meeting their priorities in areas such as maternal and child health, preventive health, and alcohol, drug abuse and mental health services. The States have exercised their extensive discretion over these funds to reduce infant mortality, promote healthy lifestyles, and help individuals solve their substance abuse problems.

Acquired Immune Deficiency Syndrome (AIDS)

The 1988 budget includes \$534 million throughout the PHS to support research on the causes and cures for AIDS and preventive educational efforts. This will bring the total level of resources expended on AIDS since 1981 to nearly \$1.4 billion.

In total, over 29,400 AIDS cases and more than 16,600 AIDS-related deaths in the U.S. have been reported to the Centers for Disease Control since June 1981. Yet, extraordinary progress has been made in a relatively short period of time in understanding this new and devastating disease, including identifying risk groups and routes of transmission; identifying the causative virus; developing tests to ensure the protection of the Nation's blood supply and hemophiliacs; initiating clinical studies of promising therapeutic drugs; and developing public health guidelines for high-risk populations, health care workers, schools, blood collection centers, and others.

In addition, the Surgeon General's Report on AIDS was issued in October 1986. This succinct document has received widespread attention and, we believe, has stimulated a much greater and more accurate understanding of the AIDS problem by the American public.

In 1988, increased spending will occur in all aspects of AIDS research and prevention activities. Emphasis will be placed on the development and application of various vaccine and therapeutic intervention strategies, including the clinical evaluation of drugs such as AZT. Increases are also slated for intensive epidemiological studies to trace the incidence of HIV infection, as well as for public education and information dissemination efforts. In this latter category, we plan to spend \$104 million in 1988, triple the amount spent just two years ago.

Other Areas of Special Concern

Immunization: A record level of \$94 million is requested for the childhood immunization program, an increase of \$7 million over 1987. Funds in the request are sufficient to purchase the same number of vaccines, 18.1 million doses, as were provided for in 1987.

To maximize the funds available for vaccine purchases within a growing budget, we have reallocated about \$12 million of the grant funds available for State operational expenses. However, to enhance the States' ability to recover these administrative costs, CDC has revised its immunization program guidelines that currently prohibit States from assessing nominal fees to parents whose children receive this service.

The immunization budget also includes \$4 million, the same amount available in 1987, to continue development of a vaccine stockpile.

Infant Mortality: The Department is continuing to focus efforts on reducing rates of infant mortality in this country. Among the major sources of support for addressing this problem is the National Institute of Child Health and Human Development, which will conduct research in areas such as fetal development, pregnancy and birth, roles of nutrients and hormones in growth and development, and causes and prevention of mental retardation. The Maternal and Child Health Block Grant is also being maintained at \$478 million in 1988.

In addition, \$85 million will be devoted to a new infant mortality initiative under Medicaid. Legislation will be proposed authorizing Medicaid demonstrations with emphasis on providing comprehensive case management services to pregnant women who are at risk of having low birth weight babies. This is discussed more fully in the Medicaid section of this statement.

Substance Abuse: In addition to \$126 million for the National Institute for Drug Abuse and a portion of the \$495 million Alcohol, Drug Abuse and Mental Health Block Grant, the 1987 appropriation provided \$252 million to carry out the

Anti-Drug Abuse Act of 1986. These funds will support research, prevention, and treatment activities in both 1987 and 1988. Of this amount, \$22 million will be used to establish a new Office for Substance Abuse Prevention; \$20 million will support demonstration programs for high-risk youth; \$33 million will enhance ongoing research, direct operations, and program management activities; \$14 million will augment the State block grants; and \$163 million will go to support alcohol and drug treatment programs within the States.

Health Professions: The 1988 budget requests \$31 million for primary care health professions education. Emphasis will be placed on programs to promote training in family medicine and geriatric health care. Specifically, these two programs are designed to respond to the expanding elderly population and to develop the capacity to care for people as outpatients, rather than on the more costly inpatient basis. This more limited and targeted approach to health professions training support also reflects the general surplus and improved distribution of our national supply of health care practitioners.

The Health Education Assistance Loan Program (HEAL) will provide \$100 million of new guarantees for private loans to graduate students in health professions schools. Complementing recently issued final regulations, aggressive efforts to reduce loan default rates and to ensure the long-term solvency of the

loan insurance funds will be proposed. Borrowers will be required to pay premiums sufficient to maintain the fund's solvency, and lenders will share in 20 percent of the loan liability.

Community Support Program: The budget also includes \$20 million, an increase of \$5 million over 1987, for demonstrations of community-based care targeted to the chronically mentally ill who constitute a substantial portion of the homeless population. States will be provided these funds through the ADAMHA Community Support Program which can be used to plan and develop better service delivery systems for these target groups.

MEDICARE

(Function 570)

For 1988, the budget for the Department of Health and Human Services includes net outlays at a proposed level of just over \$73 billion for Medicare. This represents a net increase over 1987 estimated outlays of \$1.4 billion. The budget proposes legislative and regulatory changes that would produce an estimated \$4.7 billion in outlay savings in 1988.

Medicare proposals reflected in the 1988 budget, which include selected increases as well as proposed reductions, fall into a number of categories and are discussed below under headings describing their principal themes: advancing private health plan options, assuring quality health care for beneficiaries, promoting increased competition and efficiency, and increasing beneficiary and third party cost-sharing.

PRIVATE HEALTH PLAN OPTION

One of the major aims of the 1988 budget for the Department of Health and Human Services is increased emphasis on giving Medicare beneficiaries and providers opportunities to participate in Medicare through private health plans. This approach reflects the basic principles of this Administration's Medicare policy:

- o to reduce the Government's direct role in medical and pricing decisions;
- o to increase choices for beneficiaries and providers;
- o to assure and enhance quality of care;
- o to increase competition among private organizations responsible for health care delivery, and
- o to increase incentives for efficiency.

Because of the inability of the traditional fee-for-service approach to control costs and provide consistent quality of service, we can already see a strong potential for a substantial shift in the private market toward managed health care systems such as health maintenance organizations (HMO's) and preferred provider organizations.

Medicare began to use HMO's and competitive medical plans (CMP's) in 1985 through contracts paid on a prospectively priced basis in order to expand the choices available in Medicare for beneficiaries and providers. Since that time, we have developed a comprehensive strategy to promote a private health plan option under Medicare, including:

- o Research and demonstrations - to examine ways to improve Medicare's rate formulas and to test a variety of innovative approaches to using private health plans; for example, "Medicare Insured Groups" through which Medicare rates would be based on the cost experience of particular beneficiary groups such as retirees of an individual employer. The budget includes \$8 million of new demonstration funding for 1988 to test private sector approaches, including \$5 million to establish a series of projects to explore ways in which Medicare can benefit from innovative private sector arrangements such as preferred provider organizations and negotiated provider agreements.

- o Beneficiary and public education - to inform beneficiaries, employers, unions, and other groups about the advantages of private health plan options.
- o Legislation - to deal with problems currently facing HMO's and CMP's and to expand choices for beneficiaries and providers.

Under the legislative piece of the Private Health Plan strategy, a number of proposals is included in the 1988 budget.

- o Expanded Choice: Legislation will be proposed to allow the government to contribute an amount equal to 95 percent of the cost to care for a beneficiary under traditional Medicare to a wide array of private plans. Such plans would be required to offer a benefit package equal in value to Medicare benefits. Enrollment would be strictly voluntary, and each year beneficiaries would have an opportunity to change plans or return to traditional Medicare coverage. This proposal is estimated to cost \$50 million in 1988 and \$250 million through 1992.
- o Three-year contracts: The Administration also proposes to permit HMO's/CMP's to choose either the current one-year average annual per capita cost (AAPCC) rate or an alternative three-year rate which is slightly

lower than the one-year rate. The three-year alternative would provide HMO's/CMP's greater certainty in their financial planning in exchange for a small reduction in the rate. This proposal is estimated to have no savings in 1988 and to have a five-year savings through 1992 of \$40 million.

- o Eliminate premium and profit restrictions: The Administration proposes that for small private health plans and plans competing in markets with three or more plans, existing restrictions on premiums and profits be eliminated.
- o Recovery of Lost Revenue: This proposal would permit TEFRA Risk HMOs and CMPs to recover revenues lost due to legislative action by adjusting premiums, benefits, or copayments (or some combination of adjustments) with prior approval from this Department. This change would be budget neutral.
- o HMO/CMP Monetary Penalties: We propose to establish civil monetary penalties in the law in order to improve sanctions on HMO's/CMP's which deny necessary treatment, overcharge, inappropriately screen out or disenroll Medicare beneficiaries. There is not expected to be any significant budgetary effect.

Quality of Care

An increased amount of funding has been directed to ensuring access to quality health care for Medicare program beneficiaries in recent years. Our efforts have been carried out through intensified review of quality by the Peer Review Organizations (PROs), enhanced enforcement of facility conditions of participation through the State survey and certification process and increases in funding for quality of care and prevention studies through the Health Care Financing Administration's research program.

Approximately \$176 million will be spent on PRO activities in 1988. The scope of work for the second biennial round of contracts (1987 and 1988) redirects program efforts to ensuring quality of care. This includes strengthening the intervention process when quality problems are found; mandating that a comprehensive set of quality screens be used; focused review of problem providers and physicians, particular procedures, premature discharges and discharge planning, transfers, certain readmissions, and preadmission review for certain procedures. A community outreach program is also required using seminars, hotlines, brochures and even beneficiary representatives on governing boards to assure that the PRO program is both familiar and responsive to the beneficiaries it safeguards.

Additionally, recent reconciliation bills require new review activities for services provided by Ambulatory Surgical Centers, Health Maintenance Organizations, Competitive Medical Plans and for certain surgeries. An increased emphasis on beneficiary services will also be provided through coordination of a second surgical opinion program and increased responsiveness to complaints and inquiries by beneficiaries regarding quality of care in all settings subject to PRO review. Most significant, however, may be the provision for denial of payment for substandard health care.

Funding for the State Survey and Certification program is requested at \$69 million in 1988. This is an increase of 19 percent over the level available in 1987 and 41 percent greater than the amount spent on this program in 1986. This level will allow adoption of many of the Institute of Medicine (IOM) study recommendations on nursing homes, strengthening of program enforcement through the use of intermediate sanctions against providers out of compliance with program conditions (yet posing no immediate threat to the health and safety of patients), development of better survey instruments, enhancement of data bases and improved surveyor proficiency as a result of innovative training.

In 1986, letters were sent to State Governors stressing the importance of these Federal and State enforcement programs and instructions were issued to HCFA Regional Administrators re-emphasizing our commitment to working with State Health Departments to assure access to quality health care for program beneficiaries. In 1988, we plan to continue our efforts to work cooperatively with each State to ensure that only the highest quality of health care available is offered to program beneficiaries.

The 1988 HCFA Research budget request reflects planned spending of \$7 million for quality of care and prevention and beneficiary awareness studies. Plans include developing and refining valid, non-intrusive quality of care measures for different treatment settings; a national study of hospital aftercare under PPS; integrated payment and quality assurance systems for residential health care facilities and studies and demonstrations testing the economy and efficacy of Medicare reimbursement for certain other services.

In addition to these efforts, \$137 million will be spent by Medicare contractors for medical review activities and prior authorization of nursing home and home health services will be initiated.

Promoting Competition and Efficiency

Another major focus of the 1988 budget for the Medicare program is the promotion of increased competition and efficiency among health care providers. The Prospective Payment System (PPS) remains a cornerstone in efforts to reduce costs, while at the same time maintaining a high level of quality in the care provided. The 1988 budget contains several proposals intended to further refine PPS, thus increasing its effectiveness in constraining higher medical costs.

Establish Prospective Payment Policy for Reimbursement of Hospital Capital Costs

This regulatory proposal would gradually incorporate payment for hospital capital costs into the Prospective Payment System (PPS) at the level envisioned by the Congress in the Omnibus Budget Reconciliation Act of 1986 (OBRA).

The Social Security Amendments of 1983, which created PPS for hospital operating costs, intended for capital costs to be folded into PPS by October 1, 1986. This timeline was revised by OBRA, however, which retained reimbursement for capital on a cost basis, while providing for a 7 percent reduction in capital-related payments in 1988. By maintaining a system of open-ended cost reimbursement, adequate incentives for increased efficiency are not provided.

In order to provide hospitals with adequate time to make a smooth transition in the revised payment system, the proposal would be phased in over a period of two years for movable equipment and ten years for fixed capital. By the end of these transition periods, a fixed payment combining both capital and operating costs would be made for each Medicare admission. In keeping with the intent of Congress, as expressed in OBRA, total capital payments would be equal to those which would have been made under cost reimbursement less 7 percent in 1988 and 10 percent in 1989.

Prospective Payment of Radiology, Anesthesiology, and Pathology Services Provided to Hospital Inpatients

In order to address rapidly rising physician service costs in the inpatient setting, the 1988 budget proposes legislation to modify the way Medicare pays for radiology, anesthesiology, and pathology services provided to hospital inpatients.

Currently, Medicare pays for these services using an inherently inflationary fee-for-service system based on customary, prevailing, and reasonable physician charges.

Under this proposal, payments for services provided by hospital-based physicians would be aggregated into a fixed average payment per discharge in a manner similar to the way PPS

is now structured. Thus, for each type of case, an average rate would be paid for the radiology, anesthesiology, and pathology services associated with it.

By fostering increased competition in the delivery of these services, as well as creating incentives for hospitals and physicians to become more efficiency-minded, this proposal will provide program savings of \$10 million in 1988.

Restore Discretion of Secretary to Establish Update Factor for Prospective Payment System (PPS) Rates

We are proposing to restore the discretion of the Secretary to set the PPS update factor for 1988 and beyond. The Social Security Amendments of 1983 mandated the Secretary to establish an annual update factor for the Prospective Payment System rates after taking into consideration a variety of factors including, but not limited to, the predicted rise in the hospital market basket.

The Omnibus Budget Reconciliation Act of 1986 (OBRA), served to limit the discretion of the Secretary in setting the PPS update factor by setting the 1988 rate of increase as equal to the rise in the hospital market basket minus two percentage points (MB - 2). For 1989, OBRA mandated that the rate of increase not exceed the rise in the market basket, while no limit was specified for fiscal years beyond 1989.

Under this proposal, the PPS update for 1988 would be set by the Secretary, at an amount necessary for the efficient and effective delivery of medically appropriate high quality health care. This would be based on assessing the most current and highest quality data available in accordance with procedures and timetables specified in the statute. In this way, we believe that our goal of constraining inpatient hospital costs without reducing either access or quality can be realized. Based on an assumed average payment increase of 3.9 percent, we expect this proposal to result in 1988 Medicare program savings of \$510 million.

Reform Direct Medical Education

Several legislative changes in the area of direct medical education will be undertaken to insure that payments are made only for costs directly related to the clinical care of Medicare patients.

Currently, Medicare makes direct payments to teaching hospitals for medical education costs which include the salaries and benefits of interns and residents, a portion of teaching faculty salaries, associated program and classroom costs, and the training costs of nurses and allied health professionals.

In the 1988 budget, we propose to repeal the prohibition against further limits on direct medical education as provided in the Consolidated Omnibus Budget Reconciliation Act of 1985. Consistent with efforts to place reasonable constraints on Medicare payments, particularly those that do not benefit Medicare patients, we propose to eliminate inappropriate education subsidies for classroom and other educational program costs, as well as payments for the direct training costs of nurses and allied health professionals whose primary function is to supplement the physician's function. As a result of such proposals, Medicare will realize program savings of \$310 million in 1988.

Make Indirect Medical Education Payment Consistent with
Disproportionate Share Payment

The 1988 budget proposes legislation to reduce the factor used to determine indirect medical education payments to 4.05 percent indefinitely.

Medicare currently pays teaching hospitals for the indirect costs associated with interns and residents through an adjustment to their PPS rates. When Congress instituted a separate subsidy for hospitals serving a disproportionate share of low-income patients, as part of COBRA, the indirect medical education factor was reduced from 8.7 percent to 8.1 percent.

This proposal recognizes that the current indirect medical education adjustment remains too high in light of the existence of a separate subsidy made to disproportionate share hospitals. Assuming the continuation of these disproportionate share payments, the proposed indirect medical education factor of 4.05 percent is more appropriate in that it removes the windfall payments currently being made to teaching hospitals for medical education. Savings are estimated at \$835 million in FY 1988 from this proposal.

Physician Payment Reforms

The 1988 budget also proposes to increase competition and efficiency by other selective physician reimbursement changes. This reflects the fact that Medicare payment for physician services is one of the fastest growing activities in the Federal budget. The budget includes several proposals to slow this rate of growth. These reforms would correct selected areas of overpayment and would save \$190 million in 1988.

- o Medicare is the nation's dominant payer for cataract surgery. Even after the reductions established in the Omnibus Budget Reconciliation Act of 1986 cataract surgery remains one of Medicare's most highly paid procedures on an hourly basis. The Department's proposal would establish more reasonable reimbursement rates by reducing prevailing charges for cataract surgery by an additional 13 percent.

- o Another proposal would set customary charges of new physicians at no more than 80 percent of the prevailing charge. This would correct an inequity in the current system which results in new physicians sometimes being paid at higher rates than established physicians.
- o Limits would be placed on prevailing charges for certain medical or surgical services where there is a large variation between the charges of specialists and non-specialists.
- o Prevailing charges would be reduced for procedures that are geographically excessive; for procedures that are overpriced because of technological or productivity advances; and where surgical global fees are excessive.

Modify OBRA Prompt Payment Provisions

Under this legislative proposal, the provisions regarding the payment of clean claims contained in the Omnibus Budget Reconciliation Act of 1986 (OBRA) would be modified by extending the 30-day ceiling for 1987 to 1988 and beyond. Thus, 95 percent of clean claims would be paid within 30 days of receipt.

OBRA now calls for 95 percent of clean Part A claims to be paid in not more than 30 days in 1987; 26 days in 1988; 25 days in 1989; and 24 days in 1990 and beyond. For Part B, OBRA specifies the same timeline with the exception that Medicare-participating physicians will be paid at a faster rate beginning with 1988.

This proposal provides for a maximum 30-day payment cycle for processing of Medicare clean claims a schedule that is reasonable for both the Federal government and Medicare providers - and one that is a commonly accepted business practice. We estimate the savings from this proposal to be \$890 million in 1988.

Other Competition and Efficiency Proposals

The Department's 1988 budget also proposes savings from improved competition and efficiency to be realized through: eliminating periodic interim payments for disproportionate share hospitals; eliminating return on equity payments to for-profit hospital outpatient departments and skilled nursing facilities; repealing provisions in OBRA which would expand Medicare payments to non-physicians for vision care and occupational therapy, as well as establish new end stage renal disease facility rates; and requiring durable medical equipment suppliers to furnish equipment to Medicare beneficiaries on the basis of lump-sum or lease-purchase agreements.

INCREASED THIRD-PARTY PAYMENTS AND COST-SHARING

Several proposals in the 1988 budget would result in increasing beneficiary cost-sharing and reimbursement from third-party payers.

Medicare Part B Premium and Deductible

The Medicare Part B premium would be set at separate levels for three categories of payers: new beneficiaries; current enrollees; and third-party payers. The premiums for current enrollees would be set at 25 percent of program costs each year, thus extending permanently the current provision of law which expires at the end of 1988. For new enrollees, premiums would be set at 35 percent of program costs beginning in 1988. For third-party payers, the premium would be set at 50 percent of program costs.

This proposal is designed to create a more equitable balance between general revenue and premium financing of Medicare Part B consistent with the original intent of the program. When the Part B program was first established, premiums paid by beneficiaries represented 50 percent of estimated program costs. However, between 1976 and 1983, Part B increases were limited to Social Security cost-of-living adjustments, and as a result, the relative share of Part B financed by premiums has fallen substantially.

This proposal would result in additional premium income of \$571 million in 1988 and \$15.7 billion between 1988 and 1992.

The Part B deductible would be indexed and automatically updated to reflect changes in Medicare benefits to the Medicare Economic Index beginning in 1988. The annual deductible is now \$75. Under current economic assumptions, this proposal would cause the deductible to rise \$2 in 1988 to \$77.

The deductible has only been increased twice since it was set at \$50 in 1966, and it has not even kept pace with general rises in prices. In fact, in constant 1966 dollars, today's deductible of \$75 is worth only \$22, less than 50 percent of the original \$50 deductible. This proposal to index the deductible would only result in a small increase in beneficiary costs (some of which will be covered by supplementary private insurance) but would help to maintain the real dollar value of the deductible over time.

Coverage of State and Local Employees Under Medicare

The Consolidated Omnibus Budget Reconciliation Act of 1985 extended coverage under Medicare to State and local employees hired after March 31, 1986. This proposal would expand this coverage to include State and local employees hired before March 31, 1986 as well.

This proposal corrects an inequity in the financing of Medicare coverage. Under the current system, many State and local employees become eligible for Medicare on the basis of short periods of work which are covered by Social Security. They have not, however, contributed their fair share to the Hospital Insurance Trust Fund like the majority of Medicare beneficiaries who have contributed during most of their working years. In addition to correcting this inequity, this proposal has the advantage of extending Medicare coverage to State and local government workers who now have no opportunity to enroll. Revenues to the Hospital Insurance Trust Fund would increase by \$1.6 billion in 1988.

First Full Month of Eligibility

Under current law, Medicare eligibility begins on the first day of the month in which a beneficiary turns 65. The 1988 budget proposes to begin eligibility on the first day of the month after an individual turns 65.

This proposal should not result in a lapse of health insurance coverage because most beneficiaries have private insurance policies which will cover them until the beginning of Medicare coverage. This proposal would save an estimated \$295 million in 1988.

Medicare Secondary Payer

Third-party coverage would also be increased under the budget through a proposal which would make Medicare the secondary payer for disabled individuals and their families who work and have health care coverage from a medium-sized group health plan. This proposal extends the provision in the Omnibus Budget Reconciliation Act of 1986 which made Medicare the secondary payer for the disabled covered by large employer-based health plans.

This proposal would result in increased third-party payments without adversely affecting beneficiaries. Medicare beneficiaries would continue to receive services which are at least as comprehensive as Medicare alone. Savings resulting from this proposal would be \$120 million in 1988.

INCOME SECURITY

(Function 600)

The Department's income security programs for the aged, disabled and poor will have estimated outlays of \$24.8 billion in 1988. This is a net decrease of \$164 million below the 1987 level.

SUPPLEMENTAL SECURITY INCOME

The 1988 outlay estimate for the SSI program is \$12.3 billion, an increase of \$1.4 billion over 1987 that is due mainly to the fact that thirteen monthly payments fall in fiscal year 1988, compared to twelve monthly payments in fiscal year 1987. Federal benefit payments under this program will provide assistance to an average of 4.0 million recipients each month in 1988, compared to 3.9 million in 1987.

The increase in benefit payments also reflects an estimated cost-of-living increase of 3.5 percent payable in January 1988.

FAMILY SUPPORT PAYMENTS TO STATES

The Family Support Payments to States request includes \$9.8 billion in outlays for the following two programs, Aid to Families with Dependent Children and Child Support Enforcement.

Aid to Families with Dependent Children

A total of \$9.0 billion is included in the 1988 budget for the AFDC program. These expenditures will provide assistance to an average of 3.8 million families each month.

The AFDC request includes several legislative proposals. These are intended to ensure that States operate their welfare programs cost-effectively, that the employability and self-sufficiency of welfare recipients is increased, that strong work

requirements exist for all able-bodied recipients, and that assistance is provided only to those who are in need but unable to provide for themselves. In 1988, these legislative proposals are estimated to save \$322 million in AFDC; through 1992, savings would amount to over \$1.9 billion.

The specific proposals are as follows:

Reform Welfare Administration

The 1988 budget proposes for Federal welfare programs to reduce Federal matching payments for State administrative costs above specified levels of per recipient costs. States could offset excess costs in one program against cost efficiencies in the others. For AFDC, State payments would be matched at the current 50 percent rate up to 125 percent of the State's median per recipient cost; at 25 percent for costs between 125 and 150 percent of the median; and would receive no Federal matching payments for costs above 150 percent of the median. Adjustments would be made for certain factors, including State employee wage differentials.

The Department also proposes to phase out the higher Federal matching rate for statewide data systems development, reducing it from 90 to 75 percent in 1988. States would have through 1990 to complete their statewide systems development at the 75 percent rate. Thereafter, the match would be at the

regular 50 percent rate for administrative costs. Together, these two proposals are expected to reduce administrative costs by \$16 million in 1988, and by \$73 million through 1992.

Mandate Activities to Increase Welfare Recipient Employability

The Department is proposing an expanded initiative of Greater Opportunities through Work (GROW) to increase welfare recipients employability and self-sufficiency. Unlike past proposals, GROW includes a focus on teen parents--a group at high risk of dropping out of school and becoming long-term welfare recipients. GROW also recognizes that education or short-term, employment directed training may be necessary for recipients to obtain meaningful jobs that ensure their ability to remain self-sufficient. Therefore, education and training are included as allowable activities.

States will be required to stress continued schooling for teens without a high school diploma, remedial or basic education for adults on welfare with less than a high school education, and participation in job search or work-related activities for other employable AFDC recipients. States would be given flexibility to continue successful work alternatives now being run under the Work Incentives demonstration authority. Parents with young children must also participate, although an exception would be made for the first few months following birth. This initiative is estimated to have a net cost of \$8 million in 1988, but to have net savings of \$932 million through 1992.

End Caretaker Benefits When Youngest Child Turns Age 16/Essential Person Limitation

This proposal would exclude caretaker relatives in calculating AFDC benefits when the youngest child reaches age 16. This is similar to ending benefits for spouses with children in their care when the youngest child reaches age 16 under the Social Security Old Age Survivor's and Disability Insurance programs. This proposal would not affect the child's benefits, but recognizes that these adults are sufficiently free from child care responsibilities to pursue employment. The household's assistance would be phased out, rather than terminated at a single point, easing the caretaker's transition into the workforce. This proposal would also limit essential persons (those in the household whose needs and income are considered in determining the AFDC grant) to those needed in the home to care for a child or incapacitated adult. This latter change is necessary to insure that limited resources are expended only on those individuals whose receipt of benefits is essential to the family. Savings are estimated at \$106 million in 1988 and \$557 million through 1992.

Require that Single Minor Parents Live With Their Parents to be Eligible for AFDC

States would be required to withhold eligibility from minor parents who have never been married and who establish separate households, unless certain conditions exist, for example, a

situation where the health and safety of the minor parent would be jeopardized if they lived with their parents. States would also have to make the AFDC payment to the minor's parents, unless the parents are likely to mismanage the payment. This proposal seeks to discourage the practice of minor parents leaving the home of their parents to claim AFDC. Savings are estimated at \$20 million in 1988 and \$108 million through 1992.

Require Quality Control Disallowances to be Collected Prospectively

Under this proposal, State AFDC erroneous payments for 1988 and succeeding years in excess of the 3 percent threshold in law would be prospectively withheld on October 1 of each fiscal year (July 1 for 1988 due to the COBRA moratorium on collections). Adjustments to reflect actual liabilities would be made to the following year's AFDC grant. Pre-1988 liabilities would continue to be collected retrospectively. This change would make collection of these disallowances consistent with current practice in the Medicaid program. Savings are estimated at \$188 million in 1988 and at \$248 million through 1992.

CHILD SUPPORT ENFORCEMENT

Implementation of changes made by the Child Support Enforcement Amendments of 1984 will continue as a major priority in 1988. We estimate that total child support collections will have increased by 160 percent since 1980, from almost

\$1.5 billion to more than \$3.9 billion in 1988. Of the 1988 amount, over \$1.4 billion will be collected on behalf of AFDC families. The 1988 budget reflects outlays of \$745 million for this program and includes three legislative proposals to strengthen incentives for more cost-effective operations, as follows:

Accelerate Reduction in Federal Financial Participation
for State/Local Administrative Expenses

This proposal would reduce the Federal matching rate for Child Support Enforcement activities to 66 percent beginning in 1988, two years ahead of schedule. Under current law, the Federal matching payment is scheduled to be reduced to 68 percent of State payments in 1988, and to 66 percent in 1990. Reducing the current Federal matching payment for State's administrative costs gives them an incentive to make up the difference through more efficient collection of support payments, which is rewarded through higher incentive payments. This proposal is estimated to save \$23 million in 1988 and \$47 million through 1992.

Reduce Enhanced ADP Matching

The Department is proposing to phase out enhanced funding for the design and development of child support enforcement computer systems by 1990, consistent with similar efforts in the AFDC, Medicaid and Food Stamp programs. Enhanced matching would

be reduced to 75 percent in 1988, and eliminated in 1990, when these activities would be matched at the prevailing rate for State and local administrative expenses of 66 percent. By 1990, States will have had almost a decade in which to design and implement automated systems with enhanced funds. This proposal is estimated to save \$4 million in 1988 and \$20 million through 1992.

Child Support Incentive Floor/Mandatory Guidelines

The Child Support Incentive Floor proposal would limit States eligible for incentive payments to those which demonstrate a cost effectiveness ratio of 1.4 or above (i.e., collections on behalf of AFDC families are at least 1.4 times the costs of achieving these collections). Currently, States receive an incentive payment of 6 percent of child support collections, regardless of costs of collection. By limiting payments to efficient States, this proposal gives States a stronger incentive to increase the cost effectiveness of their collection efforts.

The Child Support Mandatory Guidelines proposal would require the use of State guidelines as a rebuttable presumption for setting child support awards. States would also be required to periodically review and modify support orders under appropriate circumstances in accordance with the guidelines. Mandatory guidelines will help keep families self-sufficient.

For families already dependent on welfare, the increased income from larger support orders offers a way off of AFDC, since these families could do better with a combination of work income and child support rather than welfare benefits. Together, these proposals are expected to save \$119 million in 1988, and \$806 million through 1992.

LOW INCOME HOME ENERGY ASSISTANCE (LIHEAP)

The 1988 budget requests a \$1.2 billion appropriation for LIHEAP, a reduction of \$585 million compared to 1987. This reduction is proposed because of additional energy-related resources including Exxon Petroleum overcharge funds and Stripper Well funds which States have available to apply against the low income home energy assistance needs of their citizens from petroleum overcharge lawsuit settlements.

SPECIAL BENEFITS FOR DISABLED COAL MINERS

The 1988 budget request of \$903 million is \$60 million below the 1987 appropriation. Black Lung benefit levels are maintained at current levels throughout 1988, and a cost of living adjustment limited to half of the current indexation is payable in January 1989. The \$60 million decrease in the 1988 request also reflects the continuing decline in the number of beneficiaries receiving payments administered by SSA and certain minor legislative proposals aimed at conforming Black Lung payments with recent Social Security modifications.

REFUGEE AND ENTRANT ASSISTANCE PROGRAMS

In 1988, the budget request for Refugee and Entrant Assistance programs totals \$253 million in budget authority. This level of funding is sufficient to subsidize 100 percent of State costs in the provision of services for 24 months to refugees and entrants with categorical eligibility for Federal welfare programs, and for 12 months to individuals without such eligibility.

SOCIAL SECURITY

(Function 650)

The Department contributes to the income security one out of every six Americans through the Social Security programs of Old Age, Survivor's and Disability Insurance (OASDI). OASDI outlays of \$220 billion will constitute about 61 percent of the HHS budget and will provide assistance to approximately 38.5 million Americans in 1988. This represents an increase of \$11.5 billion in outlays compared to 1987. Growth in OASDI outlays is due primarily to an estimated increase of 618,000 beneficiaries; a higher average benefit amount due to higher earnings of newer beneficiaries; and to payment in January 1988 of the annual cost-of-living increase currently estimated at 3.5 percent.

These additional benefit costs are well within the projected revenues to the trust funds, which are estimated at \$260 billion in 1988. As these figures indicate clearly, the solvency of the Social Security trust funds has been restored, and the necessary build up of substantial reserves to provide benefits to the "baby boom" generation is estimated to grow to \$105 billion in 1988, \$221 billion by 1990, and to about \$1.3 trillion by the year 2000. This rate of growth is crucial to honoring the Social Security compact with today's workers without overburdening the workers of the next generation.

The budget also includes the effects of legislative proposals to improve FICA coverage by eliminating special exemptions in current law for income from tips, weekend military reserve duty, certain student and agricultural employment, and employer paid life insurance premiums exceeding \$50,000 of coverage. This proposal would yield over \$4.2 billion of revenues and interest over the next five years, including an estimated \$515 million in 1987.

For the Social Security Administration's administrative expenses, the FY 1988 budget reflects a reduction of \$67 million which is related to SSA's continuing progress in increasing productivity through systems modernization and other management improvements. While SSA is achieving significant gains in efficiency, all indications are that quality of service is not only remaining high but is improving.

Mr. Chairman, this budget is a well-reasoned, compassionate and responsible plan.

It fully honors our obligations to Americans who need our help.

It carries us further toward the President's vision of a more effective and efficient government, serving all Americans better, and it accomplishes these goals while remaining within the deficit imposed by Congress.

That concludes my remarks, Mr. Chairman, and I would be happy to answer your questions at this time.

Chairman CHILES. Senator Conrad.

REDUCTION OF DRG RATE

Senator CONRAD. Mr. Secretary, the interest in the DRG rate, 1.5 percent compared to the marketbasket increase of something over 6 percent, obviously puts additional pressure on hospitals, especially rural hospitals like many of the hospitals that are in my State.

I would be interested to know if there has been any study done within your Department of the effect on smaller hospitals, the more rural hospitals, of this reduction from the marketbasket, so we could determine how many hospitals' viability might be threatened by this proposal.

Secretary BOWEN. I can't give you any exact figures on that—maybe Mr. McCann or one of the others can—but the impact of the savings that we have requested are that about 57 percent affects the hospitals, and 17 percent affects physicians, 4 percent other providers, 18 percent third party payers, and 4 percent beneficiaries.

So in looking for savings, one has to look where most of the money goes, that is, to the hospitals. But I can assure you that we are constantly aware of the impact of these programs on rural hospitals, and on the amount of uncompensated care that they provide; and also the disproportionate share.

Mr. BURKE. Senator, the figure cited in the budget is a placeholder that is an estimate of what we expect the increase to be. In past years, that number has been adjusted when we get into the year. Last year, you recall, we had a placeholder of 2 percent, which subsequently Congress enacted at 1.5. We estimate, with the declining inflation rate, that the placeholder is 1.5, but it is an estimate, and subject to subsequent change.

Senator CONRAD. Maybe I could just share——

Senator DOMENICI. Would the Senator yield?

Senator CONRAD. Yes.

Senator DOMENICI. Mr. Chairman, could we have the two witnesses identified in the record that are helping.

Secretary BOWEN. I'm sorry. This is my chief of staff, Mr. Tom Burke; this is assistant secretary for management and budget, Mr. Tony McCann.

Senator DOMENICI. Thank you, Mr. Chairman.

Thank you, Senator.

SMALLER HOSPITALS THREATENED

Senator CONRAD. I just wanted to share with you what I've heard on a recent trip home.

The smaller hospitals in my State already have a very difficult time with the DRGs if they experience an extraordinary illness in the community that goes beyond what the DRG allows: a renal failure case, for example. You can think of a whole series of catastrophic illnesses that someone might suffer, and those hospitals are operate very close to the edge of economic viability.

They are deeply concerned about the 1.5 percent plug versus what the market basket shows. I'm told that a number of the hos-

pitals in my State are directly threatened. I'm talking now in terms of the survival of those hospitals as institutions.

I am wondering if it would be possible to have your agency provide to us any analysis. If no analysis has been done, if perhaps some resources could be devoted to analyzing how many of these small hospitals could not keep operating if the rate is only 1.5 percent.

Secretary BOWEN. We would have to, in looking at that, look at the outyear payments. These cases which are extraordinary and fall outside the DRG will be picked up as outlier payments. We can certainly do that.

Mr. BURKE. We'll provide the information.

Senator CONRAD. I'd very much appreciate that.

[The following was subsequently supplied for the record by the Department of HHS:]

EFFECTS OF 1.5 PERCENT UPDATE FACTOR

We currently estimate that a 1.5 percent update in FY 1988 will result in Medicare operating margins of about 9 percent overall for both rural and urban hospitals. This estimate is in contrast to the operating margins experienced during the first year of PPS in which hospitals generally realized margins of about 16 percent, and urban hospitals were about twice as profitable as rural ones (18 versus 9 percent).

In addition, a 1.5 percent update could be expected to have the following effects:

- Small rural hospitals with fewer than 100 beds will be more profitable than average.

- Large rural hospitals (those with more than 170 beds) will be slightly less profitable than average.

- Hospitals currently receiving additional payments for serving a disproportionate share of low income patients will be significantly more profitable than the average hospital.

The enactment of OBRA has also substantially changed the distribution of profits among hospitals. As a result, if 100 percent national PPS rates are assumed for FY 1987, we expect the following:

- 40 percent of both rural and urban hospitals will have operating margins in excess of 20 percent. This compares with 37 percent of urban and 18 percent of rural hospitals in 1984.

- The percentage of rural hospitals with negative Medicare operating margins will decline from 29 percent in FY 1984 to about 24 percent in FY 1988.

MEDICARE INCREASE

Senator CONRAD. The second question I had goes to the premium increase for Medicare part B for new enrollees. Those of us who serve in elective office always get hit with the notch problem in the social security system.

If there is anything that's difficult to explain to somebody, it is that they are getting less than somebody else in a similar situation because of their birthdate. To try to explain to them that the other person is getting more than they really should have falls on pretty deaf ears.

I'm wondering if we're not going to have this same problem when we have this premium increase applied to new enrollees.

Secretary BOWEN. I suspect that you will have some of the same complaints. As a member of the notch group, I wonder at times also. But our proposals are that those who are already in the part B remain, or they are grandfathered in at the 25-percent rate. New enrollees would be at the 35-percent rate, and those with third party payers would be at the 50-percent rate.

At the present time, now, about 25 percent of the costs are born by the beneficiary, and about 75 percent are born by the Federal Government, while the original intent of the medicare was that it would be about 50/50.

In the interests of getting back to the original intent, we are trying to take some steps in order to approach that. The combination of those three suggestions would raise the income by about \$571 million to the trust fund. And again, with the trust fund being a little shaky up until the next century we feel it is good policy to try to protect the trust fund.

Chairman CHILES. Senator Domenici.

Senator DOMENICI. Thank you very much, Mr. Chairman.

PROGRAM ASSISTANCE TO THE HOMELESS

Mr. Secretary, let me be very specific about a bill that we passed last session with reference to the homeless, again. I just want to see what we are doing.

I hope you are aware of the fact that as we passed the antidrug bill, we changed the law substantially with reference to some of your programs and the homeless.

Particularly, you were ordered to devise a method of making Supplemental Security Income payments to homeless individuals. SSI, as you know, is the Federal welfare program for the aged, the blind, and the needy.

You were asked to extend medicaid health coverage to otherwise eligible homeless individuals, and to devise a method for seeing that that occurred.

You were asked to issue guidelines to the States regarding homeless children under the AFDC program.

And you were ordered, along with the Secretary of Agriculture, to develop a system allowing individuals to apply for SSI and food stamps prior to their release from mental institutions and the like.

I raise these questions because frankly, all of these programs are on the books. Americans had expected these people to be receiving these benefits, but because they are homeless, many of them did not get the programs because we had residency requirements. That was almost an automatic disenfranchisement for this group of people.

Now might I ask how far along in the preparation of the regulations and the implementation of these provisions is the Department?

Secretary BOWEN. Thank you. I believe that the Act requires changes in three of our programs, in the SSI, in the AFDC, and also in Medicaid.

Senator DOMENICI. Right.

PROGRESS BEING MADE TO HELP

Secretary BOWEN. We are, in my judgment, proceeding pretty well on each of these because we do recognize the very seriousness of the problem.

In SSI, we were to do two things—provide a method for making payments to the eligible individuals who do not have fixed addresses. The Social Security Administration has a number of ways to

make these SSI payments to the homeless people. These include sending checks to a shelter, sending them to a third party to a post office, or general delivery, or to a local Social Security Office where they can pick them up.

For the eligible homeless persons who are unable to handle their own finances, we can pay the benefits to a relative or to a friend or to a shelter or some other organization.

We also are to provide a common application form for the SSI and food stamps for institutionalized persons who are about to be released. We are working with the Department of Agriculture at the present time on a common application. This is going well, and we expect to have it done very shortly.

Meanwhile, SSA is expanding its current policy of taking food-stamp applications from the SSI applicants. Under Medicaid, we are directed to require that States make available Medicaid eligibility cards for the homeless individuals. The States are now required to issue Medicaid cards to eligible individuals who do not have a fixed address. That has already been done.

To further implement the provision, we are requiring that States revise their own State plans to indicate the method they use to meet this requirement, and to do this we are preparing appropriate revisions to the reprint of the Medicaid State Plan, and the guidelines for inclusion in the Medicaid State Manual.

As to the AFDC, we are required, within 6 months of enactment to issue guidelines to the States on providing AFDC benefits to the dependent homeless children. We have a draft regulation that is being reviewed. We intend to meet the statutory deadline; we are working toward this very diligently.

NOTHING IN BUDGET FOR CATASTROPHIC HEALTH

Senator DOMENICI. Mr. Secretary, with reference to catastrophic health insurance, we understand your proposal would have been budget-neutral. The Congressional Budget Office has not yet so concluded its assessment, but OMB and your Department say it is budget-neutral.

The President's budget does not include a catastrophic health insurance proposal. Do you know whether the administration plans separately to support catastrophic health insurance?

Secretary BOWEN. I would like to point out and emphasize that our recommendations to the President are essentially self-financing and budget-neutral. The fiscal year 1988 budget does not include anything for the catastrophic health insurance, but the final decisions on the plan have not been made.

I expect that the President will be making his decision with reference to the catastrophic health insurance in the very near future. All I can say at the present time is that appropriate budget amendments, if any, will be forwarded after the President's decision is made and is announced.

Thank you, Mr. Chairman.

Chairman CHILES. Thank you, Mr. Secretary.

Senator Sasser?

Senator SASSER. Mr. Secretary, I want to follow up on a question that my distinguished colleague Senator Domenici propounded just a moment ago.

I was a little perplexed to see that there was nothing in the budget document itself dealing with the whole question of catastrophic illness, and curious that was nothing in your opening statement about the whole question of catastrophic illness, which I think is going to be one of the preeminent questions in the national dialogue this year.

NEW LEGISLATION HAS BROADER HEALTH PLAN

Now, I have proposed legislation that would go a little further than the proposal that you have indicated you support. My legislation would offer the elderly comprehensive protection from the expenses of extended hospital stays as well as long-term care. And the legislation that I have proposed, along with Congressman Pepper on the House side, would provide protection against routine physician visits, dental, eye and hearing care.

I held informal hearings in this room on this whole issue just last month and regrettably, you were unable to attend, because I think you could have added a lot to those hearings.

But at these hearings, we heard testimony from individuals with first-hand experience on the facts of catastrophic illness as well as from representatives of major health groups. And the general consensus there was, Mr. Secretary, that the Federal Government simply must expand its role in long-term care.

Now, frankly, I do not feel that the proposal you have advanced goes far enough. But I do want to commend you for advancing that proposal. The Chinese have a proverb that "A journey of a thousand miles begins with the first step." And I want to commend you, Mr. Secretary, for "taking the first step" and moving us in the direction at least of getting the Federal Government's role in the whole question of catastrophic illness and care for catastrophic illness into the national dialogue.

I would ask you, sir, have you talked directly with the President about this issue, and if so, what was his reaction to it?

Secretary BOWEN. Well, the answer is yes, I have had three opportunities to present our program on catastrophic to the Domestic Policy Council, and two times I have presented it to the Cabinet, with the President present.

I can assure you that the President is intensely interested in the entire problem, that he has compassion for the people who are faced with the loss of their life savings. As to the final decision that he will have, we will have to wait and see. I am awaiting that, the same as you are.

Senator SASSER. Well, I thank you, Mr. Secretary. Let me just say to you here this morning something I have said to your other colleagues in the Cabinet as they have appeared before us.

I have questioned the seriousness of the administration's efforts to deal with the budget deficit in this proposed budget. And I understand the constraints and compulsions that you and your colleagues operate under, emanating from OMB. But we begin from the point that the Congressional Budget Office estimates that even

if all of the President's proposals were enacted, even if we adopted the administration's budget as it has been presented here to this Budget Committee, we would miss the deficit targets mandated by the Gramm-Rudman-Hollings bill of between \$27 and \$32 billion—that is if we took what was brought to us.

OTHER FUNCTIONS OF BUDGET PAY FOR DEFENSE

But even more dubious in my estimation is the way in which the administration has fashioned this budget. We find that many proposals are simply rehashes of what the Congress has previously rejected, and that were rejected when this Senate was controlled by the President's own party. And while we find that the administration is proposing real increases in the defense budget of 3 percent above inflation, it has asked other budget functions to make up for this increase in defense in order to conform to the Gramm-Rudman-Hollings deficit targets.

MEDICARE INCREASE

Now, let me just give you an example of what I am talking about. One area is the Medicare budget that you have discussed with us this morning. The administration is proposing to increase out-of-pocket Medicare beneficiary expenses for new beneficiaries. Now, that comes on top of out-of-pocket increases over the last 6 years of 89 percent in part B coverage, 169 percent in charges to beneficiaries for part B coinsurance, and 171 percent in charge deductions passed on to beneficiaries for unassigned claims.

And when I go into my State and talk to the elderly citizens there, they are wringing their hands about Medicare and the increasing expense of health care costs. And when we look at the statistics, we are now seeing that the average elderly American is paying more out of his or her own pocket for medical expenses than they did years ago before the advent of Medicare.

So from that standpoint, Mr. Secretary, from a practical standpoint, does the administration really expect the Congress to pass these proposals, or does your Department seriously expect this Congress and this Budget Committee to make cuts in benefits going to Medicare beneficiaries, or are we simply filling the technical requirements of the budget law and not proposing what this Senator would consider a serious budget?

Secretary BOWEN. We have tried to use our own best judgment as to how to allocate the various resources that we have in light of the current budgetary pressures. And if you were sitting in my seat, I doubt that you could come up with something that everybody would agree with. But we have done our best.

BREAKDOWN OF MEDICARE INCREASE

Now, as to the medicare increases that you talked about, again I would state that 4 percent of those would affect the beneficiaries, whereas 57 percent would affect the hospitals as providers, and 17 percent would affect the physicians, and 18 percent would affect the third-party payers.

Chairman CHILES. I wonder if you would give us the dollar values of those. You have given us the kind of percent cuts of the recom-

mendations, but sometimes that does not equate to where the dollars are. Could you give us those?

Secretary BOWEN. Well, I think the total medicare budget is \$73 billion.

Chairman CHILES. But of the savings that you expect to come out of that, you have said only 4 percent of the recommendations affect beneficiaries. How much savings comes from that?

Secretary BOWEN. The savings from the hospitals would be the 57 percent, would amount to \$3.03 billion—

Chairman CHILES. That is 1 year.

Secretary BOWEN. For a year, for 1988, and the totals for 1988 through 1991 would be \$28,426 million.

Chairman CHILES. \$28 billion.

Secretary BOWEN. Right. For physicians, the dollars in 1988 would be \$919 million; over the period through 1991 would be \$5,416 million.

For the other providers, the savings in 1988 would be \$205 million; and over a 5-year period, \$2,220 million. Third-party payers, it would be \$947 million for the first year, in 1988, and \$6.9 billion through 1991. For the beneficiaries, it would be \$237 million, or 4 percent, in 1988; and over the long period, it would be \$12,790 million.

Chairman CHILES. \$12 billion.

Secretary BOWEN. Right, over the 5-year period.

Total medicare outlays over the 5 years would be about \$530 billion.

Chairman CHILES. So it is \$12 billion out of your proposed total savings over the 5 years would be—

Secretary BOWEN. It would be about 23 percent over the 5-year period.

Chairman CHILES. Yes; 23 percent, even though it is 4 percent of your recommendations.

Secretary BOWEN. Right.

Chairman CHILES. Senator Grassley?

Senator GRASSLEY. Thank you, Mr. Chairman.

I missed your testimony, Dr. Bowen, because I had a meeting with Senator DeConcini. Except for two questions already asked, I have other questions that I want to ask, but I thank my colleagues for asking a couple of questions that I was interested in.

DEFERRALS V. NO ACTION TO DEFER

The first deals with the National Institutes of Health and some confusion that might appear that I thought you could clear up. Now, the budget proposal that came before us, and also Dr. Miller's testimony yesterday before the Appropriations Committee, that the Administration plans to reduce the 1987 NIH appropriation by \$334 million and then that would in turn reduce the number of new and competing research grants by 700. Dr. Miller said yesterday that the administration would be sending a deferral message up on that amount of money.

Now, this is where the confusion comes in. I want to quote from the President's budget message on page 33, where it says—and this is the one that came up on January 5—

"There will be no Executive Branch action to defer or otherwise restrict funds currently available until after congressional enactment of this proposal."

Now, I assume that "this proposal" in the quote refers to a proposal in that same document to fund the lower level of new and competing grants in the level authorized and appropriated by Congress. Now, the clarification I need is, is the administration going to spend the money unless otherwise instructed by Congress, or is it going to defer spending that money?

Secretary BOWEN. May I ask Mr. McCann to answer that, please?
Senator GRASSLEY. Yes.

Mr. McCANN. Senator, we have proposed to make the \$300 million available for 2 years, as the Appropriations Committee has the authority to do. The way we are administering that for now is that we are in each of the first three quarters making available the same number of grants as we would make available under current law if we had not proposed the change. We are, however, funding them at about a 2- or 4-percent increase rather than roughly a 15-percent increase, as was proposed in the appropriations language last year.

If the Congress approves of making the money available, we will fund fewer grants in the fourth quarter, and we will continue to keep the funding levels at the 3- or 4-percent increase.

If the Congress does not approve it, we will give supplementary grants to those grants we have already issued to bring them up to the full amount and fund the full number in the fourth quarter.

Senator GRASSLEY. Thank you very much for that clarification.

MEDICARE PROSPECTIVE PAYMENT SYSTEM

I want to now ask you, Dr. Bowen, about the budget proposal to fold radiologists, anesthesiologists and pathologists into the Medicare Prospective Payment System. The budget document seems to indicate that the savings generated are going to be something like \$10 million, at least in fiscal year 1988.

My question to you is, does this level of savings justify what some people seem to think is a fairly wrenching change for the physicians involved?

Secretary BOWEN. I am sure this was not our favorite addition to the budget, being a physician. We did oppose the inclusion of physicians in total into the DRG program. The hospital-based physicians, as you mentioned, are in just a little bit different category, but it still is not among my favorite additions.

Senator GRASSLEY. I think you have probably clarified it. You are very unenthusiastic about it, and probably it is not worth the \$10 million, but you are stuck with it because of OMB; right?

Secretary BOWEN. It would amount to \$10 million the first year, and over the 5-year period, I believe it would be \$660 million. So we are faced with a big budget problem of trying to squeeze down to meet our targets.

Senator GRASSLEY. So there would be a growing savings the longer it is in, right?

Secretary BOWEN. Yes.

MEDICARE ECONOMIC INDEX AND SS RETIREES

Senator GRASSLEY. That was a follow-up question I had.

Another proposal that the Administration is making is to index part B deductible to the Medicare economic index. How does the Medicare economic index move in relationship to the cost-of-living adjustment for Social Security retirees? And there is an assumption in my question on my part that it increases more rapidly; but do you know how much more rapidly?

Secretary BOWEN. I cannot give you that percentage, but I can give you the projections of what the increases would be. The part B deductible now is \$75, and in the next year, the index would put it at \$77, and the next year to \$80. It would go up very slowly. But had it been indexed from its start at \$50, back in 1965 when it started, it would be about \$250 in 1988.

Senator GRASSLEY. Would you see it leading to an erosion of income for senior citizens because they spend a larger percentage of their income on health care than most other age groups?

Secretary BOWEN. It possibly could as our population is aging so rapidly, because the older you get, the more medical care that you possibly need; but also, if the Social Security checks are indexed comparably; you could say it would be a comparable thing.

Tom has a comment he would like to add to that.

Senator GRASSLEY. Yes?

Mr. BURKE. The components going into the two indexes, the one being the cost of doing business index, in a sense, many of the components are included in both indexes, so there would be a linkage between the two indexes. One might accelerate slightly faster than the other one, but they are not totally separately indexes insofar as the components that go into computing the index.

PHYSICIANS ASSISTANTS UNDER PART B

Senator GRASSLEY. Now, I see in the President's proposal what I think is a repeal of legislation that I just got passed along with Congressman Wyden last year, that includes physicians' assistants under part B coverage. Are you recommending that that be repealed?

Secretary BOWEN. Yes; that is in our budget.

Senator GRASSLEY. OK. Can you tell me what I think is an inconsistency both within the administration—well, there is not in Congress, because we are consistent on this—but you recommend that we pass, I think, \$19 million authorization in the 1985 health bill for training of physicians' assistants because we need their services, and they are provided for in the acts covering the needs of rural areas to make their use reimbursable there, to urge them to go there. There is no doubt about the extension.

Now, we are appropriating money for their training, but we are not making full use of them if they are not included under part B, and as far as all the research I could do before we got our legislation passed, there is not a cost to the Medicare system for their inclusion under part B.

Secretary BOWEN. Do you have any answer to that?

Mr. McCANN. No.

Mr. BURKE. We are also recommending some reductions in the direct medical education that would exclude payments for some of the non-physician-type training—

Senator GRASSLEY. Yes; but you are not doing away completely with the help for physicians' assistants in this area, are you?

Chairman CHILES. Senator, I do not want to stop you before you get an answer to this question.

Senator GRASSLEY. OK. Well, that happens to be my last question, but I would like to have an answer. But my last question was a clarifying one. You are still recommending some money for training for physicians' assistants, even though there is some reduction there, right—OK, the lady in the back shakes her head yes.

Secretary BOWEN. We will provide an answer for the record.

Senator GRASSLEY. OK. But what about it? Why do you want to repeal something that obviously, we think is good, because we are subsidizing the education, that is no cost to part B; you are suggesting repealing it. How come, if there are no savings there?

Secretary BOWEN. It must be a difference of opinion. However, there is no physician shortage at the present time, so I suspect it would be good policy not to increase the use of medical assistants if there is no physician shortage.

Senator GRASSLEY. OK. Just one comment. There may be a surplus of medical people, but there is still maldistribution—

Secretary BOWEN. Distribution remains a problem.

Senator GRASSLEY [continuing]. That physicians' assistants can help out even beyond what was intended in the rural health acts that we passed.

Secretary BOWEN. There is a distribution problem.

Senator GRASSLEY. Well, I hope that you will take a look at it and maybe withdraw that recommendation.

[The following was subsequently supplied for the record by the Department of HHS:]

PHYSICIAN'S ASSISTANTS

The administration is not requesting funds in the FY 1988 budget for support under the PHS Act of Physicians Assistants Training. Hence, we see no inconsistency with our recommendation to repeal coverage of the physicians assistants services under part B of medicare.

Chairman CHILES. Senator Simon?

Senator SIMON. Thank you, Mr. Chairman.

First, let me just say in general, I think those of us on the Hill are very much impressed by the job you are doing, Mr. Secretary, and we applaud that.

Secretary BOWEN. Thank you, Senator.

HEALTH BUDGET COSTS DUE TO SMOKING

Senator SIMON. If I may follow up on an earlier question by one of my colleagues, we obviously face a very tough problem in this committee to get that deficit down to where it should be. And part of the answer has to be revenue. And while the Administration maintains a formal posture of no tax increases, in fact, we have user fees. You are recommending, for example, changes in medicare part B. On average, as I understand, the new enrollees will

pay about another \$90 a year. That, in fact, is a tax increase for these senior citizens.

In connection with user fees, I read research the other day by a man in Boston who said if you were to tax cigarettes for the costs that they bring to Medicare and Medicaid, it would be about \$3 per package. Now, I am not advocating a tax of \$3 per package on cigarettes. But I would be interested in knowing, even in very, very rough terms—and I realize you cannot be very precise—what the costs to Medicare and Medicaid are, according to the Surgeon General, from lung cancer, heart disease and other things that may be related to smoking. And I realize you cannot answer that question just off the top of your head.

Secretary BOWEN. We do know that cigarette smoking certainly does increase the amount of emphysema, heart disease, lung cancer and many other circulatory diseases. We will provide an answer to that for the record.

[The following was subsequently supplied for the records by the Department of HHS:]

MEDICARE AND MEDICAID EXPENDITURES FOR PATIENTS WITH DISEASES CAUSED BY SMOKING

According to several publications put out by the Health Care Financing Administration, in 1984 there was a total of \$342 billion spent on personal health care, 29.6 percent of which was paid for by Medicare/Medicaid. In 1985, there was \$371.4 billion spent on personal health care, 29.7 percent were paid for by Medicare/Medicaid.

To take this one step further, it is estimated that in 1984, Medicaid paid for \$47.9 billion. In 1985, Medicaid paid for \$39.8 billion and Medicare paid for \$70.5 billion.

Surprisingly enough, according to the Surgeon General's 1984 Report, approximately 350,000 people died in 1983 prematurely due to diseases caused by smoking; 60,000 of these people had chronic obstructive respiratory conditions; 170,000 had coronary heart diseases; and 130,000 had various forms of cancer.

It has been estimated that of the total (82.7 billion) economic cost of illnesses in the 65 and over age group, that, \$28.7 billion went toward diseases of the circulatory system and \$5.5 billion went to disease of the respiratory system.

More statistics are being processed to find out what percent of the Medicare/Medicaid costs are going toward the health care costs of individuals needing medical attention due to smoking.

Senator SIMON. That would be great. But there is no question the costs are very substantial?

Secretary BOWEN. I do not think there is any question. You will find others who might dispute that in certain industries, but I think the total medical community is in agreement.

CATASTROPHIC HEALTH CARE

Senator SIMON. All right. Then in response to the question by Senator Domenici and the question by Senator Sasser on the catastrophic long-term care, your answer was extremely diplomatic. If George Shultz should resign, I know who his replacement ought to be after that answer. [Laughter.]

You said, "We are waiting for the President's decision on this." Some of us have the impression that your proposal has already been shot down, but I hope your little more positive answer is an indication that it may not be so.

Do you have any idea how long we may have to wait for the President to get an answer on this?

Secretary BOWEN. I am anticipating some statement in his state of the Union address—but I am not privy to the comments that are going to be included. But again, I can assure you that he does have this intense interest in the need for catastrophic coverage, not just for the one particular group, but he has an intense interest for the catastrophic expenses that go with a long-term, acute illness with prolonged hospitalization, for the long-term care including the nursing home for stroke victims, or Alzheimer's, but also for the whole population of which we find there are 30 million people without any insurance at all, and 10 million more who are underinsured. And that is the under-65 age group. So we tried to address all three of those in our report, and again, I am pleased with the report. Not everybody agrees with it, as you know, but as I have stated, even if no parts of our report are adopted, at least the debate and discussion has been elevated to the point that I feel something worthwhile will result.

Senator SIMON. I think that is important. Well, I hope the President does include your program in his message, and as has been pointed out, it is revenue-neutral. You would not be offended, if the President should not include it, if some of us in the Senate and the House go ahead with the program, would you?

Secretary BOWEN. Well, I came to this position with the idea that this was an issue that has been smoldering for many years, and its time has come. I am pleased with our report. There are many options, and I would just hope that something will come out of the debate. I truthfully do not believe that the President is going to ignore this.

Senator SIMON. I thank you, Mr. Secretary.

Thank you, Mr. Chairman.

Chairman CHILES. Senator Exon?

Senator EXON. Thank you, Mr. Chairman.

Mr. Secretary, welcome.

Secretary BOWEN. Thank you.

OFTEN HEARD REFRAIN

Senator EXON. It is good to see an old friend whom I had the privilege to serve with as Governor a long, long time ago. I add my remarks to my predecessors' who have questioned you this morning. We are delighted to have you here. We think you do an awfully good job over there in a terribly difficult role.

I notice in your prior testimony here, you say "The budget also meets the strict test of deficit reduction. In order to meet the Gramm-Rudman-Hollings deficit target for 1988, the President's budget . . .," and so forth and so on.

I have asked the various Cabinet officers who have come up here from time to time, when a statement almost identical to that has come up with all of your predecessors as if they were marching to orders of what to say.

Were you told to put a phrase similar to that in your remarks to this Committee, or was that of your own choosing and authorship?

Secretary BOWEN. No; we were not told, to the best of my knowledge—at least I was not told to put anything like that in there. But after struggling and agonizing over trying to reach a certain figure,

we feel that we are justified in saying that we have met our obligation in trying to meet the bottom line.

Senator EXON. "The budget also meets the strict tests of deficit reduction." Are you talking there about your part of the budget, or are you talking about the overall budget proposal that has been presented to us by the President?

Secretary BOWEN. No; we do not interfere in other agencies. This is our statement for our particular Department.

Senator EXON. In other words, what you are saying here is that you have met the figure assigned to you that was part and parcel of the total reduction necessary to meet the Gramm-Rudman targets; is that correct?

Secretary BOWEN. I am saying that we feel we have done our share.

Senator EXON. All right. That clears that up. Your statement differs from some of your predecessors who have been up here, because they obviously came in here trumpeting the fact that this was a balanced budget, it met the Gramm-Rudman-Hollings targets. Anyone who has had any experience as Governors have had with balancing budgets knows it does not meet Gramm-Rudman's targets. And I would simply say, and I will not ask you to comment on it, but I am going to say that if you, as Governor of Indiana, and if I, as Governor of Nebraska, presented a budget like this and said it meets the balanced budget amendment of our States, or that it meets some goal of Gramm-Rudman-Hollings when it does not, we would be laughed out of office. But that is not the way things are done in Washington, DC. We keep fooling people over and over again, and I do not think you fool people, because you are a square-shooter, Dr. Bowen.

HEALTH CARE IN RURAL AREAS

Let me get into a question or two that I have with regard to many of the concerns that have already been addressed to you here this morning. But since you come from a State with considerable rural areas, not unlike Nebraska and many of our other States, health care in rural areas is under extreme pressure today, and I think you know that, for a whole host of reasons. With agriculture in the rural States experiencing a dramatic decline in their economy, that is putting pressure on hospitals, and there have been closings or threats of closings of many hospitals in Nebraska.

What do you see, looking into the future, as a former practitioner yourself, the quality of health care that we are going to be able to deliver in the rural areas of our country, given the fact that—and I think most rural residents understand—they do not have the total quality of health care that you have in the major metropolitan areas. But do you think that health care delivery services are on the decline in rural America—which I think they are—and if so, what do you think that you and I might do to stop that decline, which I think will cut very dramatically into the quality of life in rural Nebraska if it is allowed to continue.

Secretary BOWEN. It is very difficult to establish a way of measuring quality of care. Personally, I do not believe that quality of

care in general has been reduced by the cost savings that have been put into effect.

Senator EXON. Let me interrupt you, Doctor. I am not criticizing you. I am not criticizing the individual physician. I am not criticizing at this time the reduction in the budget. I am asking you a question as a former practitioner in whom I have a great deal of respect and confidence, do you think, regardless of budgets, that the quality of health care in rural Nebraska is as good today as it was 10 years ago?

QUALITY OF HEALTH CARE STABLE

Secretary BOWEN. I do not know about rural Nebraska. But I think I can say in rural Indiana that no, I do not think the quality has gone down. I think that there are a lot of anecdotes that do come forward and state that quality has gone down. But the mortality rates have not fallen, and I guess that is the final way of judging quality of care.

I think that it is not nearly as much fun to practice medicine today as it used to be because of all of the restrictions and the freedoms that have essentially been taken away. But the quality, I think, is remaining quite good. We have a lot of things in place to try to be sure that the quality remains high. A lot of these things do restrict again what physicians can do, and perhaps patients getting out of the hospital a little bit earlier. But if we use the example of somebody having a hernia repaired, they used to stay in the hospital many days, and now it is just a very short period of time. You are going to hurt in the hospital the same as you would at home, but you are going to recover just as fast. So that the quality and the end result do remain the same.

Senator EXON. Thank you. My time is up.

Thank you, Mr. Chairman.

Chairman CHILES. Senator Dodd?

Senator DODD. Thank you very much, Mr. Chairman.

Dr. Bowen, let me just join again with those here who commend you for your work in the last several years. You enjoy a great deal of respect, I think, in the Congress, on both sides of the aisle, and rightly so, given your competence, your background and your commitment.

I recall you testifying a couple of years ago in your confirmation hearings on catastrophic health insurance, and I commend you for sticking with it. I do not know how it will come out, either, but I think it is courageous that you are not giving up on that.

Secretary BOWEN. Thank you.

DRUG PROGRAMS CUT IN BUDGET

Senator DODD. Let me ask you a couple of quick questions, if I can. About 3 or 4 months ago, I guess most would agree that the major issue of the 1986 senatorial/congressional campaigns was drug abuse. We had everyone taking drug tests from the President on down; we had a major bill in Congress, a major bill out of the administration. To quote the President prior to the November 4 election, he said, "a total commitment to the American people and their government to fight the evils of drugs."

And yet, in this budget there is a proposal to cut \$913 million in drug-related programs, including \$225 million in grants to States and cities, after we urged them to get involved in this program and told them they could count on the Federal Government to be involved.

Have we reneged on that commitment in this budget?

Secretary BOWEN. In my judgment, we have not reneged on it. We are not cutting back on efforts. There is no one who abhors drug addiction and drug abuse any more than we do. I suspect you are getting after the fact that we plan to implement the new funding over a 2-year period rather than, as we have been criticized already, for not having added more new money to the program.

The \$252 million that was added to it is for a combination of three things—research and prevention and the State services programs. We have divided that into two parts—\$177 million going to the States services, and the other \$75 million going for research and prevention.

We have essentially doubled the substance abuse activities and the 2-year implementation, we think is necessary so that we can prudently spend this rather large infusion of funds.

We think that it is necessary in order to plan for specific research programs, to plan for specific prevention types of programs, and also to allow the States to consider their options for enhancing the treatment capacity that will best serve their needs.

The \$177 million is available to the States to expand their school and drug abuse services through 1988. It allows them the time to plan for their treatment approaches, to hire new staff and train them, and to target—and that is a difficult job—to target the resources so they get the best use out of the funds.

Of the \$177 million, 45 percent, as you know, is allocated according to population, and as of January 14, only 20 States have even submitted requests for applications—

CUT DRAMATIC IN LIGHT OF RHETORIC

Senator DODD. Excuse me, Dr. Bowen. You realize, of course, when this real effort got under way last year, a lot of State legislatures were not even in session; they had just begun. The fact that 20 States have in that time frame is rather remarkable. And I appreciate your comments, but it seems to me this is a far cry from the rhetoric we heard only a few short months ago. The concern of many of us was that it was not quite the commitment, we were fearful, that it was in an election—and I say that on my part, and I am not asking you to comment on this. And I appreciate your trying to drape this thing in as attractive a clothing as possible, but the fact of the matter is it is a significant reduction. And a lot of our mayors and governors across this country are deeply disappointed, Democrats and Republicans, given the height and the level of rhetorical commitment to this program of only a few weeks ago, and then to find in this budget as it is submitted these kinds of cuts.

I appreciate your comment on it, but I would be remiss if I did not bring that up here, given the level of concern.

Secretary BOWEN. I think a lot of us are not aware of the amounts that States and local communities and foundations and charitable organizations are applying to this effort, also. So if you add them all together, I think it is a significant effort.

Senator DODD. Let me ask you just a couple of quick things, if I can, and I will come back on the second round.

CAPITAL COSTS INTO DRG'S BAD

Those of us in the Northeast and Midwest have higher capital costs, generally, and have historically. Your proposal here to fold the capital costs into the DRGs is going to create a disproportionate cost, we believe, anyway, in the Northeast and Midwest, than in other areas of the country given the higher costs we have traditionally had with construction and the like.

Is there some additional formula that you might suggest that would not create that kind of disproportionate handling of the DRG problem other than what you have suggested in this budget?

Secretary BOWEN. This has been one of the most difficult issues that has faced me in the last year, and I would like to ask Tom Burke to answer that.

Senator DODD. And a lot of them are not just public policy questions, but land costs are higher, for instance, and we have less of it. So there are things that we cannot do anything about. Others might suggest it is a question of policy, but there are certain matters that we do not have any choice in. If you build a wing in a hospital in New York City, it costs you a lot more than it does to do it in a rural State; and to fold that into our DRG, it just seems to me is unfair.

CAPITAL COSTS RECOVERED

Secretary BOWEN. The capital issue is a critical issue that is going to have to be addressed this year, and I do not think there is any easy solution. You mentioned New York City. There are a number of hospitals that are looking at complete replacements, for all intents and purposes, and these are needed and certainly justified.

The other side of the equation, however, Senator, is that once the new facility is up, you are looking at \$1,500 per admission just to cover the capital costs when you go into that hospital.

The question is, Can we afford that price for that care? There are some hard choices. There is not going to be any easy solution. But as long as we are running capital offline as a separate cost pass-through, we have got a very big component outside the prospective payment system and the incentives of prospective payment are not going to take hold. We put that in place to get off of a retrospective cost reimbursement; yet we still have this large component of the reimbursement out there. And when you are looking at a cost per admission of \$1,500 just to cover your capital costs, you can see the enormity of the problem, and I do not think there is going to be an easy fix.

I realize that the hospitals in New England are the ones that are probably going to—it is not going to hit geographically equal; it is going to hurt the New England hospitals, with the flagship hospi-

tals, the large teaching hospitals, the ones with the large capital structures.

Senator DODD. Sure. And we have the poorest people. In New Haven, areas like that, the patients who come into those places are among the poorest in the country.

Anyway, are you looking at any formula? Are you looking at ways of dealing with this other than what you have suggested here?

Secretary BOWEN. I think on the issue of the large inner-city hospitals, which have large debt structures, also taking care of disproportionate numbers of poor people, that is a separate issue, and we are looking at that under our disproportionate share adjustment. I think we are in the process right now of reexamining the whole capital issue, and we are bringing people from the industry in, including New York. I have been up to New York and have met with the hospital people up there—

Senator DODD. Well, I appreciate that. We would like to work with you on that in the next few weeks.

Secretary BOWEN. Certainly.

Senator DODD. Thank you, Mr. Chairman.

Chairman CHILES. Senator Nickles?

Senator NICKLES. Thank you, Mr. Chairman, and Dr. Bowen, welcome.

A couple of questions. Just looking overall, your total budget increase is what, 3 percent?

Secretary BOWEN. It is from \$348 billion to \$361 billion, whatever percent that is.

Senator NICKLES. So that is a \$13 billion increase, so it would be about 3 percent.

How much does medicare grow under your budget?

Secretary BOWEN. About 8 percent.

Senator NICKLES. Is that with your reforms?

Secretary BOWEN. Even if we would apply all of the reforms, it would still grow 8 percent.

MEDICARE COST GROWTH PROJECTION

Senator NICKLES. So medicare—and you have a lot of reforms, some of which are probably going to be controversial—continues to grow at 8 percent. Is that 8 percent for the next few years? Is that projected?

Secretary BOWEN. Yes.

Senator NICKLES. Without those reforms how fast would it grow?

Mr. McCANN. The gross outlays in Medicare will grow at about 9 percent under our baseline, and they grow somewhat higher under the CBO baseline.

Senator NICKLES. If you had present law with no changes, how rapidly would they grow?

Mr. McCANN. That is it, sir; about 9 percent under our baseline and somewhat higher under CBO's.

Senator NICKLES. OK. But with your proposed recommendations, I guess some of which are administrative and some of which are legislative, Medicare would continue to grow at about what—8 percent?

Mr. McCANN. Yes, sir.

Senator NICKLES. So you are talking about it is going to grow either at 8 percent or 9 percent or in that kind of a range?

Is there an increase in the deductible amount for medicare premiums in the proposal—what is the deductible amount today?

Mr. BURKE. Seventy-five dollars.

Senator NICKLES. That is part B. What about part A?

Mr. BURKE. There is \$520 for the first day of admission.

Senator NICKLES. Is there a proposal to increase that?

Mr. BURKE. That is the increase.

Senator NICKLES. What is the amount today—\$400?

Mr. BURKE. It was \$496—it was capped by Congress so that it did not get the full impact last year, did not get the full increase. It was capped at \$520.

Senator NICKLES. Capped at \$520. And you leave that alone?

Mr. BURKE. Yes.

Senator NICKLES. Or, Congress capped it at \$520. OK. Part B, you have indexing.

Mr. BURKE. Yes.

Senator NICKLES. And the deductible amount today is how much?

Mr. BURKE. Seventy-five dollars.

Senator NICKLES. Seventy-five. And that would increase with what, inflation, or—

Secretary BOWEN. The medical economic index, which would put it up to about—

Senator NICKLES. It is going to be a hyper-inflation.

Secretary BOWEN. It would be about \$77, I believe, for 1988.

Senator NICKLES. From \$75 to \$77?

Secretary BOWEN. To \$77. And I think the next year, it would be \$80, and I think the next year, it would be \$82 or \$83—it goes up slowly with the index.

MAKING MEDICARE DEDUCTIBLE EASIER TO MEET

Senator NICKLES. Dr. Bowen, I mentioned to you before the idea of making some medicare reforms and to make the deductible more affordable, the idea of having a lower deductible with some type of cost-sharing spread out, so you would not have an individual having to pay \$520 for the first day and then basically have the hospital bill being picked up for what, the next 90 days?

Mr. BURKE. Fifty-nine.

Senator NICKLES. The next 59 days.

Mr. BURKE. The first 60 days.

Senator NICKLES. Wouldn't it be a little easier for a lot of Americans to be able to handle it if that deductible were a smaller amount, and then maybe they would pay some percentage throughout the other 60 days, have it come out to where it would be almost neutral—do you see what I am saying—so that the up-front costs would not be quite so heavy, but they could share some of the costs—in other words, cut your deductible, say, in half, or a \$200 deductible, or something like that, and then have some kind of a cost pickup for the next 59 days?

Secretary BOWEN. As I understand it, that is the law, and we have no jurisdiction over that. But many of these, about 65 or 68 percent, have medigap insurance which takes care of it.

Senator NICKLES. Take care of what—the deductible?

Secretary BOWEN. The deductible, that is right. But it is a good argument for the catastrophic program.

Senator NICKLES. Well, I am not trying to make an argument for your catastrophic program. I wonder about the affordability of it. I think as to desirability, everybody would love to provide the services, but I am also wondering where the money is coming from.

Secretary BOWEN. In our catastrophic plan?

Senator NICKLES. Yes.

Secretary BOWEN. It would be a budget-neutral program for the acute catastrophic care for the elderly.

Senator NICKLES. It is your conclusion that catastrophic care can be provided better in that manner as in comparison to the private sector?

Secretary BOWEN. For—

PHYSICIANS' FEES UNDER MEDICARE

Senator NICKLES. I am running out of time, and I have got an important question. Under the proposal, physicians are still frozen—physicians treating Medicare patients, aren't they frozen in what they can charge their patients?

Secretary BOWEN. They are not frozen, not at the present time. That was relieved as of October.

Senator NICKLES. So that increase is what, one-point-some percent, or something? They are still limited on what they can charge a Medicare patient, even if that patient is extremely wealthy?

Secretary BOWEN. If they are Medicare. If they are not Medicare, I do not think there is any limit on that.

Senator NICKLES. If the patient is not Medicare. If they had somebody over 65, if they were not a Medicare patient, then they could charge whatever they wanted?

Secretary BOWEN. Well, about 98 or 99 percent of all people above the age of 65 are on Medicare.

Senator NICKLES. And so for that 98 percent, in almost all cases, a physician could not charge an individual, his patient, even if they are extremely wealthy, anything above whatever the prescribed amount is?

Mr. BURKE. No, that is not true. You can charge them—you do not take assignment under medicare, and you charge them your fee. Medicare pays on a schedule, but you balance bill the patient for the difference between what medicare is allowed and whatever your fee is.

Senator NICKLES. Whatever that fee may be.

Mr. BURKE. Well, Congress capped the balance billing at 15 percent last year.

Senator NICKLES. I see my time has expired. Thank you.

Chairman CHILES. Senator Symms?

Senator SYMMS. Thank you, Mr. Chairman.

LARGE SOCIAL SECURITY SURPLUS

Dr. Bowen, I appreciate your being here this morning. I want to shift gears a little bit from this line of questioning and talk a little bit about the Social Security Trust Fund surplus and ask you if you have done any recent estimates on that?

As you know, there is a scheduled increase in the payroll tax in 1988 and again in 1990. And even with the massive rate of public debt accumulation that is happening right now, many of the number-crunchers are predicting that we will soon have a big enough surplus in the Social Security Trust Fund that it will consume all the national debt, and we will even be looking elsewhere to invest this surplus.

Do your numbers confirm that we are actually building a massive surplus in the Social Security Trust Fund?

Secretary BOWEN. We are building a big surplus, but it is my understanding that that is only to take care of the "elder boom" as a result of the "baby boom" of the past several years, and that it is necessary to build it up to that level in order not to have a big problem at the time the "baby boom" becomes the "elder boom".

FOREGO PAYROLL SOCIAL SECURITY TAX INCREASE

Senator SYMMS. Well, that is the argument that I have always had presented to me also, but the point I am getting at is that if we do in fact have a payroll tax increase, it makes us less competitive, puts a bigger squeeze not only on small business particularly, but also on big business—it goes into the labor cost, and it escalates their pricing decisions. I am wondering, in view of the fact that social security works like a big, revolving chain letter, that the people who are working pay in, and those who are retired take out, if you have done any projections, it might be wise not to have the payroll tax increase in 1988 and again in 1990, so we do not push our labor costs up in the economy at this time.

The reason I ask that question is that once you get to where you have invested totally in the national debt, especially if Congress will do the right thing—which is a big assumption—and actually make Gramm-Rudman work, or something close to that, and stop deficit spending in the future, then we are going to get to a situation where there is no place else to invest this money, and then the government will have to go to the private sector to find investments; isn't that correct?

Secretary BOWEN. You are getting out of my area of expertise, Senator. We can have an answer prepared for you by our actuaries and our people, if you so desire.

Senator SYMMS. Well, what I am talking about is how are we going to invest this money that is needed for the baby boomers when they reach age 65, or retirement age? Right now, it is all going into government securities.

Secretary BOWEN. I know of no change.

KEEP GOVERNMENT OUT OF PRIVATE INVESTMENTS

Senator SYMMS. You see, what has got me concerned is if the government starts investing in the private sector because they have a surplus of funds and no place to invest it, pretty soon the

government owns half of the private sector, with this big, \$20 trillion accumulation of money that it will take to pay off the baby boomers when they get to retirement age.

And what I am suggesting is that it appears to me it might be a more wise course of action for us not to raise the payroll tax and let the people keep this money in their pockets, and then let them invest it, so the government does not end up owning everything, like it does in Sweden where the Swedish retirement fund owns everything.

Do you want to comment on that?

Secretary BOWEN. Mr. McCann, if you will, please.

Mr. McCANN. Senator, the surpluses are building up in the Trust Fund. I am not aware that we are at a point any time soon where the surpluses in the Trust Fund would exceed the deficit available to sustain them. The projections that say the Trust Fund is in fact solvent through the middle of the next century are based in fact on the assumption that those taxes will be collected.

And it is fair to say that in this generation for the first time, we are paying for our own Social Security by the buildup of the Trust Fund.

Senator SYMMS. Well, I suppose one way this will be solved is by our lax immigration policy—we could just allow people to immigrate into the country who are under age 30 or something; that keeps the chain letter fed, so you always have people paying into it for us who get older.

Of course, I have always asked the question, where is the cigar box with the money in it, because all I have ever seen Washington do is spend more than they get—but I am told by Finance Committee staff that by the year 2020, if this keeps on this course we will have such a surplus that it will be a real problem as to where to put the money, where to invest it.

So what I am suggesting is that it—while it is good to keep a healthy surplus, I agree, so that there is no threat to those that are retired, that they will not have to worry about their checks, but not just because we passed a law four or five years ago that said that on certain dates, we are going to raise this payroll tax—that we reappraise it and maybe not raise the payroll tax, so we do not create this excess surplus problem, and let the private sector, let those Americans who earn it keep their money and invest it in their own banks and savings accounts and not have it all accumulated in the hands of the Government.

Mr. BURKE. Senator, unless we begin to repay part of the debt—which is about \$2 trillion now—even at the massive accumulations projected in the out-years, which are posited on the increases that you refer to, there is not going to be any private sector investment. The investments would still be in government securities, as they always have been.

Senator SYMMS. OK. I see my time is up. Thank you, Mr. Chairman.

SSA COMPUTER MODERNIZATION

Chairman CHILES. Mr. Secretary, today I am releasing a report that we just received from the General Accounting Office which re-

lates to the lack of progress of the Social Security Administration in its computer modernization program.¹ This is new to you, and I will give you a copy of this report. I am asking you a question that I will ask you to submit an answer for, as I do not think this is something I expect you to know now.

The Social Security Administration has indefinitely deferred the modernization of computer software for 94 percent of transactions for beneficiaries. The completion date for the remaining portion of the software development plan is now unknown, according to the SSA project manager. Implementation of key aspects of this effort cannot even begin until January 1988.

Pilot testing of the new software system has not included evaluation of its impact on services to the public, and the Social Security Administration has no plan to do such an evaluation in the future.

Ignoring GAO's previous recommendations, the Social Security Administration has purchased 22,000 computer terminals in September even though the software that goes with these terminals is way behind schedule.

GAO now warns in this particular report that, based on the past trends and the technological innovations of such equipment, it is entirely possible that this equipment will become obsolete before it is fully utilized.

So SSA has failed to adopt standards for testing or documenting and validating its computer software, and without these, GAO warns that future modifications to improve the systems or to implement legislative requirements could be difficult and costly.

SSA STAFF CUTS COULD DISRUPT SERVICE

Your budget calls for a reduction of 4,000 to 5,000 more staff in 1988, on top of the reductions of many thousands that have already occurred. The budget proposes to eliminate 17,000 positions by 1990, and 20,000 total by 1992. The rationalization for this large percentage of staffing cuts has been software computer modernization. The remaining cuts have been largely unjustified altogether.

Using this rationalization, though, SSA has argued that service to the public would not be impaired by such cuts. Congress has repeatedly talked about this service; it has repeatedly asked SSA whether this could be done.

Now, in view of the GAO report showing huge delays in the computer software modernization, it is inconceivable to me that such staffing cuts can be made without disrupting service to the elderly and disabled Social Security applicants and beneficiaries. If anything, it looks like your need for staff has increased because of new responsibilities for using Social Security numbers that are now mandated by the immigration and the tax reform legislation.

Obviously, you have not had an opportunity to review this. I am providing your staff with a copy, and we would like to see if we could receive your thoughts within the next 10 days, if possible.

Secretary BOWEN. I think that will be very possible. My staff had sort of anticipated some of your remarks on that, and we do have three or four pages here, which we will submit.

¹ See p. 97.

Chairman CHILES. Well, if you have an answer you want to give me now, I will be happy to listen to it. I just did not want to spring something on you without giving you an opportunity to answer it.

SSA MEETING PRODUCTIVITY GOALS

Secretary BOWEN. The answer that we would give concerning the staffing is that Social Security is meeting the productivity improvement goals and still maintaining the service to the public that we think are quite high standards.

The systems modernization efforts have reduced field office computer responses to under 3 seconds, which enables immediate and accurate benefit computations and direct access to program files.

Social Security cards now are issued within 11 days, and that is a great reduction from what it used to be.

The backlog of wage postings and the benefit adjustments associated with them have been eliminated. Our most recent measure of waiting time at a district office shows an average wait of just under 9 minutes, which is 3 minutes shorter than it was just 8 or 9 months ago.

So it is the Department's intention as reflected in the budget request to continue with these improvements and to operate within the staffing levels of 71,799 FTE's in 1987 and 69,345 in 1988 in SSA's limitation on administrative expenses.

If quality should go down, we certainly will not be bashful to recommend increases—

THE ABYSMAL RECORD OF SSA

Chairman CHILES. Well, Mr. Secretary, I am informed that there are many transactions that are done by SSA that are behind schedule, and that is something we will go into. But if you can furnish me anything else after you have had a chance to study this, I would like to have it.

And I would just like to say that to me, it is hard to understand the abysmal record of SSA in trying to modernize its computer system. It is not just during this administration—it goes back as long as I have been here, they have been talking about what they were going to do and still have not done it. For a country that is now embarking on the kind of research that we are in SSA—which has to be the most fantastic software proposal that the world has ever discovered—with the kinds of experts that we have in the country for software, we have seen in many instances a system that they would start buying what we knew was going to be obsolete before it could ever get onboard. There has not been this thinking of trying to look ahead and determine how do we look forward to where we stand in the next century and design a system that is going to be able to keep up with that.

But as I say, all of that has not occurred on your watch.

Secretary BOWEN. We will analyze the report and try to get an answer to you.¹

Chairman CHILES. Thank you, sir.

¹ See p. 115.

MEDICARE PROMPT PAY LEGISLATION

I want to ask you what the Department's intent is on the Medicare prompt pay legislation. I am confused about your intentions regarding implementation of the new law.

As you know, we had some problems last year when we had complaints from thousands of Medicare beneficiaries that their claims were not paid. When we looked into it, we found that Medicare contractors had been told to hold claims so that they would not be paid before 30 days. The idea was to keep that money in the Medicare trust fund longer, so it would earn more interest.

We had the typical sort of statement that you do not pay your hardware store for 30 days, so why should the government pay its bill.

A lot of us in the Congress felt that if anyone was going to get paid interest, it ought to be the beneficiaries who could not pay their bills because they could not get their Medicare.

We passed a law to prohibit a slowdown in claims; all clean claims had to be paid within 30 days this year and 26 days next year.

Our intent was that most of those claims should continue to be paid as fast as possible. It was not long before rather than it be paid as fast as possible, they kept saying, "For some of these, it will take longer; give us this longer period of time." Then we found that "give us this extra period of time" meant 28 days became the outside limit, and the instructions came down, "Wait at least the maximum period of time" rather than pay things as quick as we could.

Then another order went out and said forget that 28-day wait, and pay sooner than that.

Now we find that your budget says you do not want to implement the prompt pay provisions, you want to go back to 30 days, so we are getting another signal.

What is the signal that goes out there to the people who are supposed to be doing this as to whether they are supposed to be paying these claims or not?

Secretary BOWEN. Well, our present policy—and I emphasize "present"—is that—

Chairman CHILES. How long will that "present" last? Do we have until noon today?

Secretary BOWEN [continuing]. That there will be no mandatory holding or delay of claims. We stated that in a letter to several Congressmen as of December 23, 1986. But I would have to say that if the policy changes due to the budgetary matters, I will let it be known to you as rapidly as I can.

SLOW PAY NOT IMPROVED

Chairman CHILES. Well, I think I got one of those letters with other people, of that "no unnecessary delay", but then when I talked to the third-party payers who are responsible, or the people who are responsible for paying for this—the Blue Cross/Blue Shield people—they tell me that their order said, pay as rapidly as you can within their operating budgets. That is another level.

Then, I look and see that you have not approved any contractors' budgets yet, so all money for this year is now being held since October. So if you have not approved any budgets, isn't this another signal that is out there to slow down payments—if you are to pay within an operating budget that you don't yet have?

Secretary BOWEN. Well, our contractors will be permitted to pay claims faster than 30 days, if possible, within their operating budgets.

Chairman CHILES. But if you are not letting them have the money to operate on, what I am saying is they are not going to be able to pay.

Mr. McCANN. We had a series of discussions early on on what the payment cycle would be, and between October and now, we have been allocating money to the contractors on a relatively short basis. They have been receiving money, but they have not had an overall budget.

It is our expectation that with the clarification of the payment cycle and the release of some contingency moneys, we know now the full amount of money that will be available, and we expect that we will be allocating the money to the carriers fairly shortly.

Chairman CHILES. Well, you have some contingency funds that you have not released.

Mr. McCANN. Yes.

Chairman CHILES. When will that happen?

Mr. McCANN. They are being apportioned to us now, and we expect them to be released shortly.

Chairman CHILES. Shortly? Can you give me—

Mr. McCANN. A few days.

Chairman CHILES. A few days.

Mr. McCANN. Yes, sir.

Chairman CHILES. Thank you very much.

Senator Domenici?

Senator DOMENICI. Mr. Chairman, might I inquire of Senator Danforth how much time he has. I have to leave, and I have one more round of questions.

Do you have 10 or 15 minutes before you have to attend another committee hearing?

Senator DANFORTH. Well, I have two other committee hearings today, but—

Senator DOMENICI. They are ongoing—sort of like the ones I am supposed to be at.

Senator DANFORTH. That is right.

Senator DOMENICI. Well, let me go ahead, and we will try to expedite so you will not have to spend too much time.

Mr. Secretary, I think Senator Nickles started to make some very good points about your budget and our national budget, and I would just like to follow up on them.

CONCERN FOR GROWTH IN HEALTH CARE COSTS

Frankly, I do not believe your medicare reform proposals are going to pass. But I would urge that you and your staff, in particular since you have a former "Budgeteer" there, sitting on your right, who understands—your assistant secretary, Tony McCann—I

would urge that when you appear and talk about things like medicare, that instead of talking about what the reductions are, that you talk about what the growth is, because it is very interesting. With all of your reductions, medicare is going to grow 8 percent in outlays. And a lot of people misunderstand, because they do not understand our jargon.

We use these fancy words, "current policy." That means if you leave everything like it is and assume it is all going to spend as prescribed, what is the estimated cost. That is going to go up at the rate of 9 percent, that figure. So, if you take anything off of it, you are cutting. And that is the way the whole budget is developed up here.

But as a doctor, I ask you if you are at all concerned—forget medicare for a moment—about the growth in the cost of health care as a part of what Americans are using their earnings and their productivity for? And if you are concerned, why, and do you have any ideas as to what we ought to do about it?

Secretary BOWEN. Obviously as a public official and a physician, I am concerned about the growth. But I think it would be well to understand there are some reasons for growth. Our American population is aging rapidly, to the point that in another generation or so, we are going to have over 8.5 million people above the age of 85, and that represents, I believe, about a 280-percent increase, and they are the fragile elderly who require more medical attention. In fact, statistics show that an individual of 85 requires one and one-half times the medical expenses of someone of 65 even.

There will be about 220-percent increase, I believe, between 65 and 75. So the rapid aging and the needs of the aging represent reasons for this going up.

Then the tremendous increase in medical technology, none of which is cheap, is another reason that the costs will go up—transplantations, dialyses, and all of the new research programs bringing out the genetic types of changes that can be made for therapies.

It is impossible to predict how much technology is going to come, but I would say it is going to be a lot, and that it is something we are going to have to face.

COST OF GNP TO HEALTH CARE

Senator DOMENICI. Mr. Secretary, do you recall what percent of our GNP is now going to health care as we calculate it here in the United States?

Secretary BOWEN. It is around 11 percent.

Senator DOMENICI. Eleven percent of our entire productivity in its broadest calculation is now going to health care. Do you know whether that is a high number for an industrial society?

Secretary BOWEN. I really am not sure; Tony says it is about average.

Senator DOMENICI. Mr. McCann, is it about average for free industrial societies?

Mr. McCANN. Yes, I believe so. The English and the Canadians, I think, are a little lower than we are, but we are all in the same ballpark.

Senator DOMENICI. Mr. Secretary, I want to clarify something, and if you want to yield to Mr. McCann, it is all right with me.

OMB/CBO DIFFERENCES ON MEDICARE COST

Senator Exon, a while ago, was in my opinion very accusatory of the President's budget in terms of its authenticity, its accuracy, does it really reach \$108 billion. And frankly, I would like to give my version and see if I can get some verification here.

Mr. McCann, there is a very large difference between what the President's budget estimates to be the cost of medicare under current service policies and what CBO is saying in a letter that they have submitted as a temporary assessment of the cost. In fact, that difference is in the billions, is it not?

Mr. McCANN. Yes, it is.

Senator DOMENICI. About \$5 billion in outlay differences.

Mr. McCANN. Yes, sir.

Senator DOMENICI. Mr. McCann, in your opinion, is there a legitimate difference of opinion between the Congressional Budget Office and the OMB as to what the cost is going to be, or did OMB just invent a low figure?

Mr. McCANN. No; as you know, the idea of a baseline is somewhat theoretical, anyway. But essentially and parenthetically, our staff has been meeting with CBO and with OMB and we will provide for the record a full description of the difference between the two baselines—but essentially, there are three or four reasons why there are differences that we know of.

First of all, when CBO estimates the baseline, they start from fiscal year 1986, and they operate off of the Treasury statements—

Senator DOMENICI. I do not want to use all this time.

Mr. McCANN. OK. But there are significant differences, and we will submit them for the record.

Senator DOMENICI. All right. I was going to get to the point and ask the Chairman if he would agree—there are legitimate differences, and we have never asked that OMB and CBO get together in advance, because we want them to be independent. But I think since you were the agency involved, it would be fair to ask for an assessment of the differences from this Secretary so that we will have it here in the record, because it is in the neighborhood of \$5 billion.

Mr. McCANN. Yes, sir.

[The following was subsequently supplied for the record by the Department of HHS:]

DIFFERENCES CBO/PRESIDENT'S BUDGET BASELINE

In general, the differences between the CBO and OMB estimates stem from disagreements over economic assumptions and the cost of some outlays. CBO projects slower economic growth, higher inflation, and higher interest rates than OMB. In addition, CBO estimates that program costs will be higher, the bulk of the increase coming from medicare.

CBO's fiscal year 1988 baseline for medicare is \$5.0 billion higher than the administration's estimate. CBO projects that medicare spending will increase by over 14 percent in fiscal year 1988, following increases of 7 percent in fiscal year 1986 and 4 percent in fiscal year 1987. The administration believes that such growth will not occur and that the OMB estimate, based upon the advice of the medicare actuaries, is more realistic.

- The difference results in large part from three factors:
- CBO is projecting that lower savings will result from the administration's legislative and policy initiatives. These reestimates result in a difference of about \$1.4 billion for both HI and SMI combined.
 - The Treasury data on fiscal year 1986 spending used by CBO yielded estimates \$1.0 billion higher than the data that the medicare actuary received from the medicare intermediaries.
 - CBO's projected Hospital Insurance Fund growth rate is higher than the administration's projection. In addition, CBO's estimate of the fiscal year 1986 HI program level is higher than the administration estimate. Together, these differences account for \$2.6 billion of the differences in 1988.

HOW BUDGET DIFFERENCES ARRIVED AT

Senator DOMENICI. All right. My second point—and let me finish; the chairman is being generous—this has nothing to do with you, but let me just state it on the record. When Senator Exon says of that budget of the President's, that no governor would submit it—and let me make it clear that I do not know that I agree with the budget, I do not know that I am going to vote for the cuts that are in it—but let me make just three points.

There is \$11 billion of that difference that is nothing more and nothing less than whose economics you want to buy for the future; how much growth do you want to assume the overall economy will have in it—OMB has a slightly higher one than CBO—and that is \$11 billion in revenues. So there is \$11 billion plus \$5 billion—that is \$16 billion of this difference that my good friend from Nebraska has been chiding the President about today and on other days.

As I understand it there has been a history of reporting in the budget advance deficiency farm payments between the two departments, CBO and OMB, differently. One reports it, one does not. And that is almost \$4 billion—a well-known number. We do not have to argue about deception. One has it, and one does not. I think if my arithmetic is right now, we have \$11 billion plus \$5 billion is \$16 billion plus \$4 billion is \$20 billion. And I think the rest of it is how much you think defense is going to cost.

So, while I am not saying the President's budget is right, I am not saying that we are going to adopt it, I do not believe it is fair to imply that it intentionally attempted to get to \$108 billion in some deceptive manner.

COMMITTEE HISTORICALLY USED CBO ECONOMICS

That is the end of the statement. I believe that is a fair assessment. Let me close by saying that we have a history of buying the numbers that CBO gives us and the economics that they give us. So it is fair for us to say we have a tougher job than the President had because we are probably going to adopt CBO's estimates and the like, and that is a fair statement. We have done that more times than not, so we do have a tougher job than he had because of that precedent. But that has not made us more right and him less right in the last 7 or 8 years, because everybody has been wrong on the economics more times than not.

Thank you, Mr. Chairman.

Chairman CHILES. Senator Danforth?

Senator DANFORTH. Thank you, Mr. Chairman.

RURAL HOSPITAL REIMBURSEMENT INEQUITABLE

Mr. Secretary, many doctors and hospital administrators believe that medicare reimbursement of hospitals in rural America is inequitable compared to reimbursement in urban areas. They feel that the cost of goods and services for their hospitals is similar to what urban hospitals incur and that their reimbursement is not reasonable and not equitable.

Do they have a point in saying that, in your opinion?

Secretary BOWEN. I think they have a point, and I think they probably had more of a point a couple years ago than they do now. We have tried to address some of these things through calling some—I do not recall the exact name—regional centers, or regional referral centers, which gives them a little advantage; some as sole providers, if they are sort of isolated and take care of a big area. And then, uncompensated care, I believe they get a little extra as a result of that—am I right in that?

Mr. McCANN. Yes.

Secretary BOWEN. We are very aware of this, and coming from a rural area myself, I am very aware of it. We do not want any deficiencies, and we are trying to address them; we would be interested in hearing any good suggestions to make it more equitable.

Senator DANFORTH. All right. But you are pursuing this matter, you are attentive to it. I guess you are to receiving complaints daily?

Secretary BOWEN. Daily, but you also understand that we get the same complaints from the urban centers, so we have to balance both sides and listen to both sides, and we want it to be as equitable as we can. But as big as this country is and as many hospitals and as diverse as we are, there are always going to be winners and losers in any single recommendation that we make.

Senator DANFORTH. In the past month or so, just traveling around my State, I hear from doctors a lot, but it just seems that I have heard from more than usual in the past month or so—

Secretary BOWEN. Do you want to see my list, Senator?

DOCTORS RESIST INCLUSION IN DRG'S

Senator DANFORTH. Sure. They are very, very concerned about the relationship between the Federal Government and their practice of medicine. They feel that physicians must be advocates of the best care possible for their patients. They feel that to bring them within the DRG concept imperils their independence and their ability to serve the best interests of patients.

What response would you make to that point?

Secretary BOWEN. Well, the best defense for quality of care is the physician himself or herself. I opposed, as did Dr. Roper, the inclusion of all physicians in the DRG program. We do not feel it would be in the best interest of quality of care, access to care, charges, and so forth.

We did acquiesce to putting radiologists, pathologists and the anesthesiologists into the DRG program. They are a little bit different than those who are not hospital-based, so there is some justification. I still opposed it, but in view of our entire program, not just physicians or hospitals, but our entire program for HDS and so

forth, in order to reach our bottom line and protection of the medicare trust fund, they are included.

Senator DANFORTH. Thank you, Doctor.

Thank you, Mr. Chairman.

Secretary BOWEN. Thank you, Senator.

Chairman CHAMBERS. Senator Dodd?

Senator DODD. Thank you, Mr. Chairman.

I will try and be brief. We have kept you here a long time, Doctor, and I apologize, but I had a couple of other areas I wanted to touch upon if I could.

The catastrophic health care plan, you have gone over extensively, and I commend you for that, and hopefully things will work out so we will be able to start something in that area.

PROBLEM OF THE UNINSURED

Another area and not an unrelated area is the problem of just uninsured Americans. In the last 5 years, the number of uninsured Americans has gone from around 29 million to around 37 million. It has increased dramatically. There are a lot of reasons for that—people moving from the manufacturing sector to the service sectors; non-union areas where mandatory health coverage is not included is one of the major reasons. There are a lot of other causes that have given rise to that. But obviously, this increasing number of people in the uninsured ranks raises serious problems, given the potential and the likelihood of illness and the lack of insurance at all.

I am wondering, just briefly—and you may want to elaborate on the data more, because I think we all recognize it as a growing problem; the question is what do we do about it at all—I wonder if any consideration has been given, or how you would react in a general way, to the notion—and you would have to take into consideration, obviously, the small business implications—but as we have Social Security requirements and other such mandatory commitments, what we should do in this area of some sort of health care coverage that becomes a condition of employment, even a minimum amount, so that people are not caught—putting aside the catastrophic kind of illness, there are other illnesses people can have that are catastrophic in the sense that they are going to strip them of dollars they would otherwise use for the basic essentials in life. Have you given any thought to that at all, and how would you address the problem of this growing number of people who lack any coverage at all?

Secretary BOWEN. Well, we recognize that there are about 30 million of people without insurance below the age of 65. There are about 10 million more who are underinsured. Some of these 30 million without insurance have the financial availability to have insurance if they so desire, but a great many of them are in the low-income or very small business or self-employed.

UNINSURED INDIVIDUALS

The only study that I have made concerning this relates to the catastrophic end of it, and predominantly and historically, the uncompensated care as a result of the lack of insurance has been a

State and a local responsibility, and we certainly think that States ought to be encouraged to require, let us say, catastrophic coverage offered in all employment-related coverage.

We also would recommend that the States form risk pools to help take care of some of the medically uninsurable, those that the insurance companies will not take because they are medically in poor condition.

Senator DODD. What are your predictions about those numbers? Are my numbers—I presume they are roughly accurate—that 29 million including both groups, having gone up to around 37. In the absence of you suggesting something else, are we going to see an ever-increasing number of people in this country who are totally without insurance at all?

Secretary BOWEN. That seems to be the trend.

Senator DODD. Any indication of what those numbers are apt to look at in the absence of some—

Secretary BOWEN. I cannot give you the figures. We can try to come up with those and let you know.

Senator DODD. I would appreciate that, if you would.

[The following was subsequently supplied for the record by the Department of HHS:]

UNINSURED INDIVIDUALS

According to the technical working group on the catastrophic illness report, there is a total of uninsured people at any given point during the year, be it one day, of 39.6 million, virtually all are under the age of 65.

In the Catastrophic Illness Expenses Report to the President, the estimate was that there is currently 30 million people in the United States with no health insurance, 21 million of which will be uninsured for the entire year.

PREVENTIVE CARE UNDER MEDICARE

The second question I have has to do with preventive care. You have already gone over a number of questions dealing with the increased cost to the individual under the Medicare and Medicaid programs.

Obviously, I think we all understand, and clearly you—I have heard you, and I have read your comments—about the importance of preventive care, of screening, of annual checkups and the like, to reduce the costs of preventable illness.

Do you think there would be any support at all within the administration, or would you be willing to indicate some support this morning as to whether or not annual checkups or biannual screenings of some kind ought to be included under Medicare so as to at least reduce the potential for illness and consumer cost?

Secretary BOWEN. Such things are available, and those who are enrolled in HMO's have the physicals—

Senator DODD. Yes, I know that.

Secretary BOWEN. And one of our aims is to promote increased enrollment into the various HMO's—

Senator DODD. I am glad to hear that.

Secretary BOWEN. Not only promote the HMO's, but we want to broaden the types of enrollments that Medicare individuals can participate in by permitting insurance companies to bid on programs to take care of Medicare-age people.

Senator DODD. But in addition to Medicare itself, I mean, reimbursement—since the cost is rising there, what about the idea of Medicare reimbursement, say, for a couple of checks for the elderly.

Secretary BOWEN. For checkups?

Senator DODD. Yes—say, once or twice a year, a reimbursement. Those are nominal. Those are not usually significant costs—just a checkup that could pick up something that is treatable.

Secretary BOWEN. No, that is not in any of our programs at the present time.

Senator DODD. I understand that, but I am curious as to what your reaction to it is.

Secretary BOWEN. Tom?

PREVENTIVE CARE GOOD IN CERTAIN SETTINGS

Mr. BURKE. I think, Senator, that that is consistent with what we are trying to do in moving the Medicare population, and a major initiative this year will be the private health plan option.

The provision of preventive care checkups, for example, is very cost-effective if provided in a managed care setting. In another setting, the beneficiary is still going to get hit with the coinsurance and the deductibles, so there is some reluctance on the part of America's elderly to go for it, especially if they are going to get medications which are excluded.

When provided in a managed care setting, though, it is cost-effective, and it is to the advantage of the person delivering the care.

Senator DODD. How cost-effective? What does one cost? Do you know what the average cost of one is? I do not know. Are you talking \$25, \$30?

Mr. BURKE. I do not think you are going to get a physical for that.

Secretary BOWEN. It varies, depending on what you include in the physical. A complete physical should include x-rays of everything, and you are going to end up with perhaps a few hundred dollars. If it is just a general checkup, why—

Senator DODD. What do the HMOs provide, do you know? What sort of screening do they do?

Secretary BOWEN. It is to their advantage to keep the individual well.

Senator DODD. Right. But I mean, what does it cost?

Mr. BURKE. It does not cost the beneficiary anything. It is an integral part of their program—a very-extensive physical. In fact, the last good one I had was when I belonged to an HMO. And there is no cost-sharing or disincentive for the person—in fact, it is a requirement for membership that you go in and get it. By and large they are very persnickety that you do get it, so that they do not get hit down the road with some expensive disease that they are going to be at risk for taking care of.

Senator DODD. So if I heard you correctly, you agree that they can be very cost-effective as it could affect the Medicare system. Your concerns are the extent of the physical, who would conduct it, the environment in which it is conducted. What other concerns do you have?

Secretary BOWEN. Those are the major concerns.

Senator DODD. Those are the major ones?

Secretary BOWEN. Yes; you would have to define what you mean by a physical.

Senator DODD. I understand that. But other than those concerns, ideally, it would be a sound objective to try and at some point, if we could work out some of those things, to include that kind of a checkup under the Medicare reimbursement program; is that a fair statement? Would you agree with that?

Secretary BOWEN. It is a fair statement, but I do not want to put my stamp of full approval until we have been able to analyze it a little bit further as to cost and cost-effectiveness. But I think the cost-effectiveness of any checkup if it is done right would be beneficial.

Senator DODD. I would like to pursue that with you if I could. I know you have got an awful lot on your plate, but if there is someone in your shop who could work on that with us—I have toyed in the past with offering legislation along those lines, but I would rather do it and try to work some of these particular concerns that you have raised. I think they are legitimate ones. And if we could do that, I would be most appreciative.

Thank you, Mr. Chairman.

Chairman CHILES. Thank you, Senator Dodd—

Senator DODD. Oh, excuse me, Mr. Chairman.

Mr. Secretary, if we could just get a comment from you at some point on that homeless bill that is in the House that Congressman Foley has introduced, I think, along with Jim Wright, the Speaker—who is supporting it, at any rate. Would you give us at some point a comment on that, in as short a time as possible, on that legislation? I do not know if you have already—

Secretary BOWEN. Senator, we'll provide something for the record on that.

Senator DODD. I would appreciate it. Thank you.

Thank you, Mr. Chairman. I apologize.

[The following was subsequently supplied for the record by the Department of HHS:]

ADMINISTRATIVE POSITION ON THE HOMELESS BILL

In fiscal year 1987, the Federal Government has committed over \$260 million, more than in any previous year, on programs targeted specifically to the homeless (\$115 million for FEMA's emergency food and shelter program, \$15 million for emergency shelter grants programs, over \$100 million for rental subsidies for the mentally ill homeless and homeless families, \$23 million for runaway and homeless youth, and nearly \$10 million in surplus food, equipment, and facilities for the homeless). Other existing Federal programs fund State and local efforts to provide services and facilities for the homeless. For the Social Services Block Grant program (SSBG) provide funds that States and communities may use to assist the homeless. States and local governments have used more than \$100 million in CDBG funds alone to renovate shelters and provide support services for the homeless.

The administration opposes H.R. 558, because it establishes costly and duplicative new programs in a time of fiscal problems. It also establishes a dominant Federal role where State and local governments are better able to deal with the plight of the homeless. Rather than authorizing new Federal programs, State and local governments should be urged to target additional amounts of the over \$6 billion already available this year through CDBG, SSBG, the Community Services Block Grant, and the Alcohol, Drug Abuse, and Mental Health Block Grant to address the needs of their homeless citizens. State and local governments also should expand outreach

efforts to make sure the homeless are receiving entitlement benefits for which they are eligible.

As we learn more about the causes of homelessness, it may be appropriate to reassess the allocation of 1988 funds among programs targeted for the homeless, for example to place greater emphasis on mental health resources.

REDUCTION IN MEDICAID FUNDS

Chairman CHILES. Mr. Secretary, we again have a request to cut Medicaid and permanently cap future growth in our Federal payments. We know that we are already having a difficult problem in trying to get health care to many who are below the poverty level. We know that more than half of our children living in poverty are not covered.

We face a real battle trying to lower high rates of infant mortality. The numbers of elderly are certainly in need of long-term care, but whether nursing home or home health, we know those costs are rising dramatically.

The elderly in most need of that care are the ones that are the oldest and the poorest, and there are many more elderly eligible for Medicaid out there today than are receiving it, and we all know that.

We have been afraid to address these problems at the Federal level in any straightforward way because we know the costs will be so tremendous. We are afraid to open up Medicare to cover any of the long-term care costs, and we keep pushing that problem off to the States to deal with Medicaid or not to deal with it at all.

Doctor, you are a physician, and I have seen some of the work you have been trying to do to address the problems of access to health care. I find it difficult to believe that you support some of these Medicaid cutbacks.

If State and local officials have to do more, not less, shouldn't we be telling them that we are going to try to help them and try to find even better ways to help them more?

How many States are going to increase their coverage for mothers and babies for prenatal and well-baby care as we urged them to do last year, if we tell them we are not going to follow through with our own commitment?

How many States are going to continue to look for innovative programs of community care for the elderly if we tell them that we are not interested in that?

Secretary BOWEN. Our effort obviously is to be as cost-effective as we can and still be as compassionate as we possibly can.

NOT CUTS IN MEDICAID SERVICES

The cuts that we have suggested are really not cuts in services, but they are cuts in the matching fund administrative costs; those are the big cuts that we have anticipated. But there are so many things that States can do to help become more efficient in the administration of their program, and with your permission, let me name just a few.

The States can meet their limits with cost containment measures such as home- and community-based waivers—that is, home care instead of institutionalization—freedom of choice waivers such as competitive bidding for case management types of programs for in-

dividuals. They can implement the prospective payment system for hospitals, which would be a cost saving. And they can have a greater use of ambulatory surgery, and can increase their HMO enrollments. In fact, one of our aims is to give the States some financial incentives to increase their HMO Medicaid enrollments.

They can more accurately determine eligibility. This is an error rate that is worth \$450 million, for example.

They can have alternative nursing home reimbursement methodologies. There is a lot of room for Medicaid management improvements, and they can limit the nonemergency room visits to hospitals. It has been estimated that about 50 percent of all of the emergency room visits to the hospitals by Medicaid individuals are really not emergencies, and that is the most expensive setting in which you can have medical care.

Second surgical opinions is another method. Our legislative proposals would help do these things by eliminating some of the high matching rates for administrative procedures. Some of the matching rates, of course, are up to 90 percent or so.

Our infant mortality initiative, which we think is an excellent one, will help to reduce the number of infants, for example, with low birth weight that require tremendous expenses. For example, a pound-and-a-half baby in a neonatal care center can run \$1,000 per day for 3 or 4 months, and a great many of those end up in the Medicaid area.

We are recommending a way to avoid the eligibility for those who transfer assets at less than their market value in order to get themselves on Medicaid.

We can integrate the facility and the patient care certification inspection process and put it into just one qualitative type of review, rather than having multiple visits.

So there are many ways that they can improve the efficiency in order to make up for the cost reductions that we have requested.

CAP INDEXED TO INFLATION NOT POPULATION

Chairman CHILES. Well, I think some of those ways that you have talked about can be done, and I think they would be good. But the permanent cap that you also proposes——

Secretary BOWEN. Well, that would be indexed, the cap. We recommended the cap be indexed, so that it would be——

Chairman CHILES. But that is not a State savings kind of device that you are going to encourage.

Secretary BOWEN. As a Governor, I might complain.

Chairman CHILES. My understanding is you are going to index that to inflation, also, not to growth in the elderly population in need of nursing home care.

Secretary BOWEN. I do not recall the exact definition; do you, Tony?

Mr. McCANN. Yes; it is inflation.

Secretary BOWEN. All right. Indexed to inflation.

Chairman CHILES. That makes a difference. You have already talked about this growth that we are seeing in the elderly population, and yet you have got an index that does not relate to that; it relates to inflation.

REDUCTION IN FAMILY PLANNING PROGRAM

Well, you have also talked about infant mortality, and case management makes a lot of sense to me. That was included in the legislation we passed last year. But I would like to know your rationale why we put this initiative in, and we are going to pay for it out of family planning money. We are going to reduce one device that we have that tries to keep young teens from getting pregnant, and we are going to put the money in to take care of their babies once they get pregnant—helping the infant mortality initiative.

What is the rationale for that?

Secretary BOWEN. The family planning money, is a 90-percent matching rate, and that would not be removed entirely. It would be reduced to a 50-percent rate, and it would not interfere with the services. With those funds, that would amount to \$85 million, we would have demonstration initiatives launched in 1988 to identify the better ways to manage the prenatal services, to reduce the occurrence of the low birth weight babies.

Chairman CHILES. One out of every ten teenagers now gets pregnant. You would not exactly say that we are doing the job in regard to teenage pregnancy or the information that we are getting out there.

Secretary BOWEN. No; there is a lot of room for improvement. But I insist that all of the money that can be poured into it is not going to solve the problem of teenage pregnancy. We have to find ways of getting the mothers and the fathers and the community leaders and the preachers and the teachers and the churches and all people involved at the community level to get at that particular problem.

Chairman CHILES. I agree with that, but I do not think you help when you send the signal that the administration does not care about family planning and is taking money out of that to put into another program. I think that does not send out a very good signal.

Secretary BOWEN. Could I ask Mr. McCann to respond?

Chairman CHILES. I would be happy to hear from him.

MANY SOURCES OF FAMILY PLANNING FUNDS

Mr. McCANN. Mr. Chairman, the only thing I would point out is that, as you know, there are many, many sources of family planning money, and in virtually all cases, we have asked for the continuation of the funding levels at last year's level. We have proposed to make Title X a little bit easier to administer by making it a State program so that the States can integrate it better.

Title XX can provide family planning moneys. The preventive health block grant can provide family planning moneys. And there are several other programs that can.

So it is not as though we were cutting back on the programs. In fact, we have tried to maintain the effort in those areas. And as you said, even with all that money, we are still having problems figuring out how to deal with it. And we thought it appropriate to try and focus some of that money on specifically dealing with the very difficult problem of the teenagers that are sort of falling through at this point and are in fact getting pregnant.

EFFORT MADE EARLIER TO CUT FUNDS

Chairman CHILES. Well, as I recall, you made a proposal to cut the family planning money the year before, and Congress did not go along with that, and now you have a different rationale for it, but it is the same proposal that you have had before.

PROPOSED CUT IN NIH RESEARCH AWARDS

The budget requests \$5.5 billion in new budget authority for the National Institutes of Health and research training. That is \$650 million below the amount we appropriated for fiscal year 1987. Our intent then was to fund some 6,350 new and competing research awards a year. You now propose to keep the number of research awards down to 5,700 a year, and you would accomplish that by holding back \$334 million from 1987 and applying it to second-year funding.

By moving that money into fiscal year 1988 and adding it to your new budget authority request, the number of new awards would remain constant at the 5,700 level.

The concept of forward funding is probably a good one, and I know a lot of the scientists out there in the research community would benefit from a little more stability. We would probably get more ambitious and far-reaching proposals from investigation. But what happens to that stability when your concept of forward funding entails an 11 percent reduction in currently available funds?

Secretary BOWEN. The average cost per award, though, in 1987 and 1988 would rise to \$164,000 rather than \$155,000. We have agonized over this, also, and it is a budgetary problem, as you are quite aware. And I have asked myself just how much can actually and wisely and efficiently be spent given the current budgetary pressures. I think no one wants more than I to keep the type of research done at NIH at as high a level as we possibly can.

I would just say that we have tried to use our best judgment as to how to allocate these resources. There are always workable alternatives and trade-offs. And I realize and deem it to be a legislative right and duty, if you so feel to do so, to rearrange our suggestions, and simply administer the laws as passed. But I have to be very mindful that any changes we make still conform to the need to reduce the budget and get our bottom line.

Chairman CHILES. Well, do you propose to send us up a deferral to cover this request?

Secretary BOWEN. Tony?

PROGRAM ADMINISTRATION SAME AS A DEFERRAL

Mr. McCANN. No, sir. The way we are administering the program right now is that we are funding the same level of grants that we would have funded had we not made the proposal to you in the first three quarters of the fiscal year. We are funding those grants, however, at about a 4-percent increase rather than about a 15-percent increase, which is what the Appropriations Committee assumed.

If Congress makes the \$300 million available over 2 years, we will continue that pattern into the fourth quarter and fund a sub-

stantially smaller number of grants so that the total number of grants we fund in this fiscal year represent about 5,700.

If the Congress does not approve it, we will issue supplements to all of the grants we have issued to that date to bring them up to the full funding level, and we will fund the full number of grants that we would normally fund in the fourth quarter.

Chairman CHILES. Well, I think there is a pretty good argument to be made that in effect what you are doing is making a deferral without sending up a deferral, if you do that. We are going to ask the GAO to give us some advice on that, because I think in effect what you are saying is you are not following Congress' direction or wishes if you fund the program that way.

DEPARTMENT PROPOSING AND DISPOSING

I think you can propose, but I think you ought to let the Congress dispose. In effect, you are proposing and disposing, and then saying, at the tail-end of this process, if Congress has not gone along with it, after we have already held this money, then we will do something else. You could take any program that you want to and just say we intend to do what we want to do on this, and we are only going to spend a portion of it for 10 or 11 months out of the year, and in month 12, if Congress has not done something about it, we will do something else. That seems to me to make a mockery out of Congress' appropriation process.

Mr. McCANN. We have made a proposal, and we have tried to administer it in such a way that maintains the option to in fact implement the President's proposal should it be adopted, while at the same time allowing the full funding of the grants if in fact the Congress should not give us the authority to spend the money over 2 years.

Chairman CHILES. We have some further questions and we may submit a few for the record. You have been very patient with us, Mr. Secretary, and we appreciate your attendance. So we will conclude our hearing here until the further call of the Chair.

Thank you.

Secretary BOWEN. Thank you.

[Whereupon, at 12 o'clock p.m., the committee was adjourned.]

GAO

United States General Accounting Office
Report to Congressional Requesters

December 1986

SOFTWARE SYSTEMS

SSA Encountering
Significant Delays in
Its Claims
Modernization Project



GAO/IMTEC-87-8



United States
General Accounting Office
Washington, D.C. 20548

Information Management and
Technology Division
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December 22, 1986

The Honorable Lowell Weicker, Jr.
Chairman, Subcommittee on Labor,
Health and Human Services, and Education
Committee on Appropriations
United States Senate

The Honorable William Proxmire
Ranking Minority Member, Subcommittee on Labor,
Health and Human Services, and Education
Committee on Appropriations
United States Senate

The Honorable Lawton Chiles
United States Senate

This is our third and final report¹ responding to your December 18, 1985, request for information regarding the Social Security Administration's (SSA) Claims Modernization Project (CMP). At one time, CMP represented a major SSA effort to improve the software used to process claims for benefits and to change benefit records, software that SSA had reported to be problem-ridden. In fiscal year 1985, SSA processed about 5.7 million claims for benefits and 68 million changes to benefit records involving \$193 billion in beneficiary payments. Your request posed several questions regarding the nature and progress of the project (see appendix). To answer these questions, we reviewed (1) the agency's progress in achieving the project's original objectives and schedules and (2) related project management issues.

Although CMP has been SSA's primary software improvement project for the past 4 years, its accomplishments to date have been limited. Specifically, we found that the project's scope has been scaled back from redesigning software that processes (1) new claims for benefits and (2) post-entitlement actions (changes to the records of individuals already receiving benefits) to only redesigning the software for new claims. The post-entitlement area—which SSA has stated is presenting the greatest problems—is no longer being addressed under CMP. Even with these reduced objectives, CMP has fallen behind schedule.

¹Previous reports: Social Security: Actions and Plans to Reduce Agency Staff, GAO/HRD-86-76 BR, March 1986, and ADP Workstations: SSA's \$64 Million Acquisition For Fiscal Year 1987 Should Be Reconsidered, GAO/IMTEC-86-34, September 1986.

We also found that major aspects of the reduced project need management attention in order for SSA to avoid creating systems that are vulnerable to problems that it has experienced in the past. First, the agency continues to develop new software before completing standards for software documentation, testing, and validation. Second, a pilot test of the project has not tested all performance aspects of the hardware configuration and software components and has not provided conclusive information on how the reduced CMP will help SSA achieve its goal of improved service to the public. Finally, despite the reduced scope of CMP, the delays being experienced, and the inadequate pilot testing, SSA is making a hardware procurement large enough to support the original CMP—an action we have questioned in the past² and still question.

Scope and Methodology

To determine both the changes in CMP's scope and the progress of SSA's implementation of the project, we analyzed pertinent documentation on its development, including its various plan updates. We also interviewed agency officials responsible for project management, software development, and planning efforts. We did not review SSA's progress in its other software development initiatives.

We performed our review primarily at SSA headquarters in Baltimore, Maryland, but we also visited four of SSA's field offices and four of the agency's service centers to better understand the impact and importance of the modernized system on field office operations. The field offices we visited were CMP pilot offices—which are testing the new system using actual claimants—in Ensley, Alabama; Kansas City, Kansas; Pasadena, California; and York, Pennsylvania. We also visited program service centers—which process much of SSA's workload—in Birmingham, Alabama; Kansas City, Missouri; Philadelphia, Pennsylvania; and Richmond, California.

During this review, we met often with the present and former CMP project managers to apprise them of issues we had identified and to obtain their comments. However, as you requested, we did not obtain official agency comments on a draft of this report. Otherwise, we performed our work in accordance with generally accepted government auditing standards. Our review was performed from February through December 1986.

²ADP Acquisitions: SSA Should Limit ADP Procurements Until Further Testing Is Performed, GAO/IMTEC-86-31, August 1986.

Background

In 1982, SSA indicated³ that the computer systems used to process new claims and post-entitlement actions for the Retirement, Survivors, and Disability Insurance and Supplemental Security Income programs were problem-ridden, and as a result, were causing erroneous benefit payments to be made. In 1983, we testified⁴ that systems inefficiencies and limitations were adversely affecting service to beneficiaries. To overcome these problems, SSA began a comprehensive program to modernize its entire automatic data processing (ADP) operation. This effort, known as the Systems Modernization Plan, identified the need to improve four major ADP categories—software (Software Engineering), hardware (Capacity Upgrade), communications (Data Communications Utility), and data bases (Data Base Integration). SSA viewed the improvement of its deficient software as the main thrust of the modernization program, recognizing that its previous attempts to modernize its computer systems focused on hardware improvements without adequately addressing software effectiveness. In September 1981, the Commissioner of SSA testified⁵ that buying new machinery (hardware) would not solve the agency's systems problems.

In 1982, SSA estimated that it would require \$478 million to modernize its systems and that the modernization, including redesign of all deficient software, would take 5 years. By October 1985, SSA was indicating that total modernization costs would be \$990 million and that the effort would extend through fiscal year 1990. In October 1986, SSA's plan only estimated costs through fiscal year 1988, even though activities are projected into the 1990s. Through fiscal year 1988, SSA estimates costs to be \$642 million.

Scope of CMP Reduced and Completion Delayed

SSA has reduced the original scope of CMP and has repeatedly revised scheduled completion dates. Consequently, software developed to date under the project has been limited to automating (1) the process that field offices use to collect and edit information on new benefit claims and (2) numerous computations which field office employees must make. The completion date for the remainder of the reduced CMP is unknown. In reducing the project's scope, the agency has deferred the

³Systems Modernization Plan, U.S. Department of Health and Human Services, SSA Pub. No. 41-002.

⁴GAO testimony before the Special Committee on Aging, United States Senate, on Social Security Administration's Performance in Providing Public Service, November 16, 1983.

⁵Hearing before a Subcommittee of the Committee on Government Operations, House of Representatives, "Viability of the Social Security Administration's (SSA) Computer Systems," September 23, 1981.

modernization of the post-entitlement software, which processes 94 percent of its beneficiary-related computer transactions.

Reduced Scope of CMP Will Not Address Areas With Most Problems

In 1983, the agency began CMP as a major initiative under the Systems Modernization Plan. Its interim software goal was to modernize the agency's computer programs that process new claims for benefits. New claims processing includes collecting data from applicants, determining their eligibility for benefits, and computing the benefit amount. CMP's long-term goal was to modernize the software used to process post-entitlement actions—those events that occur after an individual is receiving benefits, such as change of address, change of name, and adjustments for erroneous payments. Achievement of these goals would have provided SSA's field offices with improved automation and would have overcome many software deficiencies which SSA recognized in earlier testimony and which were noted in the 1982 Systems Modernization Plan.

Between 1983 and 1985, CMP's software goal was reduced from improving the new claims and post-entitlement software to its present goal of improving the two aspects of the new claims software: (1) automating the manual data-collection system for new claims and (2) redesigning the software that determines eligibility and computes the benefit amount. The first objective has been accomplished, thus eliminating the need to fill out forms.

Work under the first objective has also resulted in automating numerous computations that field office employees must perform and has made more information regarding the claimant—such as verification of social security number and records of earnings—available to SSA employees while the claimant is still in the office.⁶ These achievements will assist SSA field office employees, who spend about one-third of their time working on new claims. Work on the second objective is scheduled to begin in 1988. There is no estimated completion date for the redesign of post-entitlement software.

Although modernizing post-entitlement software has been delayed indefinitely, SSA has long maintained that the post-entitlement area is the most error-prone. For example, in November 1983 the Acting SSA

⁶The method by which SSA's systems provide this information is a function of the Data Base Integration Program of the Systems Modernization Plan, not a CMP effort.

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Commissioner, in testimony⁷ before the Senate Special Committee on Aging, indicated that it was imperative that SSA improve the post-entitlement systems "because it is the area in which we make most of our errors." As recently as February 1986, SSA's Acting Deputy Commissioner for Programs and Policy identified 20 continuing problems in the post-entitlement process, including the following unresolved system-related problems:

- inability to quickly process beneficiary name and/or address corrections and changes;
- excessive delays in reissuing missing or stolen checks;
- delays in changing the records of a deceased beneficiary, which result in incorrect payments to survivors (this system limitation also frequently results in the agency's failure to credit checks returned for reason of death);
- duplicate posting of beneficiary remittances in overpayment cases (this problem results in a significant manual work load); and
- inability of the system to automatically process requests by beneficiaries to recompute payment amounts (such requests must be processed manually).

To evaluate the impact of CMP's reduced scope, we believed it important to determine the number of computer transactions involved. We accomplished this by obtaining information on all beneficiary-related computer transactions for a 6-month period in 1986 that were processed by the software systems originally scheduled for redesign (both new claims and post-entitlement). Our analysis indicates that the reduced version of CMP, when complete, will affect software that processes only 2.2 percent of these computer transactions. Specifically, the software that will be redesigned under the current project processed 1,984,561 of 89,396,506 transactions. In contrast, the post-entitlement software, which will no longer be completed under the project, processed 84,353,541, or 94 percent, of the transactions.

During our discussions on the reduced scope of CMP, present and former project managers acknowledged that the original scope of the project was to replace all beneficiary-related software. They also said that SSA had changed the scope because the redesign effort was too large and complex a task to be completed in a single effort. As stated previously, SSA plans to address post-entitlement redesign, but not as part of CMP.

⁷Hearing before the Special Committee on Aging, U.S. Senate, "Social Security: How Well Is It Serving the Public?" November 29, 1983.

Reduced Version of CMP Is Delayed at Least 3 Years Beyond SSA's Original Plan

Despite the reduction in scope, SSA has been unable to achieve its projected software development milestones for the modernization of the software that processes new claims. A draft document dated March 1984 indicates that the new claims software was scheduled to be redesigned by early 1985. In January 1985, SSA moved the target date for completing the new claims software to November 1986. The 1987 update of the Systems Modernization Plan, dated October 1986, indicated that CMP would be complete in mid-1987. However, on October 6, 1986, shortly after the 1987 version of the plan was released, the project manager told us that, due to delays in determining functional requirements^a in the project under which post-entitlement software will be redesigned, the completion date for CMP is now unknown.

Although CMP no longer includes redesigning post-entitlement software as one of its objectives, the functional requirements for this software must be completed before work on CMP's remaining objective—the redesign of software to determine eligibility and compute benefits—can be started. We agree with an agency official who indicated that this process must be followed to ensure that data will flow through the new system from the new claims process to the post-entitlement process in the most efficient and effective manner. Because the functional requirements for the post-entitlement software will not be completed until January 1988, work on CMP's last objective cannot begin until after that date. In short, completion of the reduced version of CMP has been delayed at least 3 years, while CMP's most important original objective—redesign of post-entitlement software—will not be completed until sometime in the 1990s.

Aspects of CMP Need Management Attention

Three aspects of CMP that are important to the overall success of the project need management attention. First, SSA continues to develop software without completing standards governing software documentation, testing, and validation. Such standards are needed to facilitate future software maintenance. Second, while the agency has established a pilot program to test, study, and evaluate the project's operational aspects, some important objectives—such as verifying the new system's operational performance, determining its impact on field office positions, and evaluating its impact on service to the public—will not be achieved when SSA begins implementing the program nationwide. Third, the quantity of ADP equipment SSA is procuring to support CMP is questionable in

^a"Functional requirements" is a statement of capabilities which must exist in a system to satisfy user requirements.

light of the delays in software development and the inadequate pilot testing.

Standards for Software Development Not Completed

In the 1982 Systems Modernization Plan, SSA characterized its software as poorly documented and difficult to maintain. Because of these stated deficiencies, the agency indicated that, as of 1982, software design standards and improvement to existing software documentation would be completed prior to beginning new software development. SSA recognized that it is difficult to properly develop software without standards because there are unlimited options available to programmers for designing, coding, testing, and documenting software. Lack of uniformity in these areas makes maintenance of the software difficult and costly, particularly when one system must interact with another. We reported in August 1985² that between 1982 and 1985 SSA was still designing new systems before (1) completing such standards and (2) in our opinion, adequately documenting existing systems.

While we did not review their adequacy, the agency has recently completed standards for software definition, design, and implementation. However, it is still developing software—in this instance, CMP software—without the benefit of agency-approved standards for software documentation, testing, and validation. Staff responsible for designing CMP software told us that they had to develop their own standards in order to complete their software tasks. This practice may result in CMP software programs being completed under different standards than those used to develop other agency software, even though the programs are eventually expected to operate together. In our opinion, such a situation could contribute to a crisis similar to the one experienced by SSA in the early 1980s and which was attributed, in part, to inadequate software development standards. In September 1981, SSA's former Associate Commissioner for Systems stated that the agency's software programs "cause computer failures or produce incorrect results . . . because of archaic style, unnecessary complexity, and the lack of a comprehensive, contemporary method of program development and testing."

In our August 1985 report, we noted that SSA had begun to redesign its software systems prior to completing its planned software standards. We recommended that the agency perform an analysis to identify and address the risks inherent in this approach. In Senate Report 99-151,

²Social Security Administration's Progress in Modernizing Its Computer Operations, GAO/IMTEC-86-15, August 1985.

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dated October 4, 1985, the Senate Appropriations Committee directed SSA to respond to our recommendation. In its February 28, 1986, response, SSA indicated that such an analysis was unnecessary because it had established the "necessary" standards for the development of their new systems. We maintain that SSA has not established all of the standards that it said it would in 1982. We believe that developing software without agency-approved standards represents a risky approach to software development. An SSA official responsible for completing standards informed us that a lack of resources is the primary reason for the incomplete software development standards.

SSA's Pilot Test Has Not Provided Conclusive Results

In 1985, SSA created a pilot test for CMP to evaluate its effectiveness. While SSA's test has generated some useful information, it has not provided conclusive results for verifying the reduced CMP's operational performance (software and hardware integration) and the impact that the project may have on field office positions. Perhaps more importantly, the pilot test has not provided SSA with information on improving the quality of service to the public in such areas as claims-processing time, payment accuracy, and client satisfaction. Although SSA's pilot test objectives have not been achieved and SSA has not measured CMP's impact on service to the public, the agency will begin nationwide implementation of CMP hardware and the completed portions of CMP software in early 1987. Further, the agency has no firm plans to use pilot offices to (1) periodically collect data on the impact of CMP on each of the several indicators of quality of service to the public or (2) validate future software programs as they are released.

SSA's strategy for testing CMP involved using a two-phased pilot test at 20 field offices to verify planning assumptions and to surface and resolve problems before implementing the project nationwide. The first phase of the pilot test began in early 1985 at the York, Pennsylvania, and Baltimore, Maryland, field offices after the installation of about 40 computer terminals in each office. The second phase began in early 1986 at 18 additional field offices and will continue until nationwide CMP implementation begins in early 1987. SSA had originally planned to install and test an average of about 20 terminals at each of the 18 offices but installed only 3 at each due to difficulties in obtaining the planned number of terminals. By testing this reduced number of terminals in 18 of the 20 offices, we believe SSA has not obtained sufficient information to provide conclusive results on CMP's impact on the operational performance of the system, field office positions, or service to the public.

Some Important Pilot Test
Objectives Have Not Been
Achieved

According to a project planning document, the pilot test was to accomplish the following objectives:

- determine effects and changes in field office work flow,
- define technical and management training needs,
- evaluate the human factors of office automation,
- verify the operational performance of the new systems, and
- determine the impact of the project on field office positions.

Documentation provided by the project manager indicates that the agency has collected some useful information during the pilot test in areas such as determining CMP's impact on field office work flow, defining training needs, and evaluating the effect of office automation on human factors. Although the project manager stated that the agency has been unable to gain the volume of information it could have obtained by equipping the 18 additional offices as planned, he felt that enough information has been collected and analyzed to support nationwide implementation of the project.

While SSA has accomplished some of its objectives, it has not succeeded in certain key areas. In its 1985 Annual Report to the Congress, SSA stated that all operational aspects of its new system would be completely tested, studied, and evaluated during the pilot test. SSA has not accomplished this. The test has not demonstrated the operational performance of the total configuration of hardware SSA plans to procure and software it plans to develop. Specifically, the pilot test has not been performed using the terminals, data communications equipment, and central computers that will be used nationwide as we observed in our August 1986 report. Further, due to the delays in software development discussed previously, SSA has not been able to conduct tests of the software that determines eligibility and computes the benefit. An SSA official stated that SSA may evaluate selected future software releases in pilot offices, but the agency has no firm plans to do this.

SSA's test is limited because it evaluates individual hardware and software components in a piecemeal fashion, rather than providing for an overall and thorough measure of projected performance of the components before being deployed. Pilot testing of new systems is essential to verify that they will consistently provide correct results. A September 1985 report by the National Bureau of Standards,¹⁰ on another major government modernization effort, stated that a prototype test should be

¹⁰ "Patent and Trademark Automation Review," National Bureau of Standards, September 20, 1985.

designed to include an evaluation of the performance for all major subsystems and functional components of the planned system as early as possible in the development cycle. The report states that as subsystems of a large, complex, automated system are developed, they should be evaluated in a test (or pilot) environment over a long enough period to obtain stable and complete results before releasing them for operational use. We believe that failure to adequately test new systems increases the potential for undetected errors and reduces the extent to which the software can be relied on to provide accurate information.

In the past, SSA has experienced difficulties after awarding contracts for the total complement of ADP system components that did not function as intended within the total system. For example, in August 1984, we reported¹¹ that SSA had experienced considerable problems with a major data communications equipment procurement. Among other things, SSA did not conduct an adequate pilot test of the equipment within the total ADP system before awarding the contract for the full complement of equipment. As a result, SSA received equipment that was plagued with problems that adversely affected service to the public for at least 2 years after installation. We concluded in our August 1986 report that SSA should use its field office pilot program not only to test software development, but also to determine that the hardware to be acquired will address the agency's operational needs.

SSA also has not quantified CMP's impact on field office positions during the pilot test, even though this issue was one of its objectives and has been of interest to both the Congress and the Office of Management and Budget. SSA conducted "before and after" tests of field office positions at the York and Baltimore pilot offices, and the results indicated that the project would substantially reduce the workload for individuals who review claims or enter claims information on a computer terminal. However, the agency's test report stated that more information was needed to ensure an accurate picture of the project's impact on these positions. The project manager stated that the agency plans to continue studying the impact of CMP on field office positions.

Pilot Test Has Not Measured
Impact on Client Service

In addition to not achieving its objectives regarding CMP's operational performance and impact on field office positions, SSA has not used the pilot test to determine whether CMP is achieving a major overall program

¹¹ Additional Information on the Social Security Administration's Management of Data Communications Contracts with Paradyne Corporation, GAO/IMTEC-84-23, August 1984.

objective—improving the quality of service to the public. SSA has identified several indicators of quality of service to the public, including processing time for new claims, accuracy of payments, client waiting times, and client satisfaction. In addition, an SSA official stated that information on the number of times a client was recontacted after the initial interview was another indicator of quality of service to the public. However, the pilot test has not provided complete information on these indicators. SSA conducted "before and after" studies on initial claims accuracy rates and processing times at the York and Baltimore pilot offices. The report of CMP's impact on these two indicators is inconclusive. Specifically, the report shows that the accuracy of new claims was minimally affected by the project, with accuracy rates increasing slightly at Baltimore and decreasing slightly at York. The report states that frequent changes to the software during the test period may have adversely affected accuracy rates. It also states that the processing time for new claims was reduced an average of about 4 to 6 days but that the reduction was probably due to the special attention given to the claims processed during the test.

In short, SSA's pilot test has not verified the operational performance of the proposed configuration of hardware and software nor has it demonstrated that CMP will improve the quality of service to the public. Although the Deputy Operations Manager agreed that SSA could benefit from collecting quality of service information on an on-going basis, SSA has no plans to collect data on client waiting times, client satisfaction, or client recontacts to identify how CMP affects these quality of service indicators.

Hardware Purchases Continue Despite Delays in Software Development and Inadequate Pilot Testing

In our August 1986 report, we stated that SSA was about to procure ADP hardware components—terminals, data communications equipment, and computers—without proper justification. At that time, we stated that SSA could not determine the optimal mix of systems components because, among other things, SSA had not completed all of the related functional requirements for software development. We found, for example, that the functional requirements for the Retirement, Survivors, and Disability Insurance program's post-entitlement activities and for all functions of the Supplemental Security Income program were not scheduled to be completed until December 1986—approximately 2 years after equipment needs were determined. Consequently, SSA's attempts to determine the optimal mix of ADP components through workload projections produced conflicting estimates. We also found that because SSA's pilot test offices had not received the planned amount of hardware, SSA's test

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would not determine whether the fully configured system could be expected to meet performance objectives. For this and other reasons, we recommended that SSA proceed cautiously with its contractual commitments for the ADP hardware until it could better identify its computer needs. However, SSA proceeded with the contract without reassessing these needs.

SSA has been using 4,200 terminals to process its claims workloads under its existing pre-CMP system. In order to implement CMP as originally designed (including new claims and post-entitlement), SSA estimated that it needed between 23,000 and 39,000 terminals. Although the scope of CMP has been significantly reduced and delayed several years, SSA has not re-evaluated the number of terminals it needs. As we discussed earlier in this report, SSA officials stated on October 6, 1986, that the remaining functional requirements have been delayed and are now scheduled for completion in 1988, further delaying the completion of the reduced-scope CMP. However, on September 24, 1986, SSA entered into a contract to procure an initial quantity of 22,892 terminals, with an option to procure 15,954 additional terminals, as well as other associated equipment. The initial quantity of terminals will be placed in field offices over a 2-year period ending in November 1988. In a recent trade publication,¹² the Commissioner indicated that SSA had proceeded with the contract to avoid losing time in system modernization.

While we recognize that certain benefits will be realized through ready access to terminals by SSA staff, the software that generates the large majority of the Retirement, Survivors, and Disability Insurance and Supplemental Security Income workload—which SSA cited in the contract as justification for procuring the 22,892 terminals—will not be completed until sometime in the 1990s. Given the difficulties and delays that SSA is encountering in modernizing software, as well as the incomplete design of the pilot test, it is questionable whether SSA knows the type and quantity of equipment needed and whether these large-scale procurements will be effectively utilized until the 1990s. This calls into question the validity of the quantity of equipment and delivery schedules represented by the current contract. Based on past trends in technological innovations for ADP equipment, it is possible that this equipment will become obsolescent before it can be fully utilized.

¹²"Critics Don't Slow SSA's Plans: GAO Advice Not Taken," *Government Computer News*, October 24, 1986, pp. 1 and 6.

Conclusions

While CMP has automated the process of collecting data for new claims, SSA does not know whether the improvements in service to the public it envisioned through modernizing both initial claims and post-entitlement software will materialize. After stating in the original modernization plan that major systems problems would need to be corrected within 5 years, in the fifth year of this program, SSA has completed no major portion of the software redesign, although significant amounts of hardware have been procured. The software redesign area of greatest concern—post-entitlement—has been delayed until sometime in the 1990s. Furthermore, while SSA had originally projected that its modernization plan would cost \$478 million and increased this estimate to \$990 million in 1985, the agency is no longer projecting the total cost.

SSA has not established an adequate software foundation for modernizing its claims systems to achieve its objective of improved service to the public. In implementing the reduced CMP, SSA has not followed sound management practices. In addition, while SSA cited CMP as being critical to improving its systems' operations, the project's scope has been reduced, excluding the area in which SSA has experienced its greatest number of problems—post-entitlement. Even with its reduced scope, CMP has been delayed at least 3 years. The post-entitlement software will not be completed until sometime in the 1990s. The size and complexity of redesigning the post-entitlement software raises questions about how SSA will conduct this larger aspect of software modernization. Thus, most of the software-related problems SSA had originally hoped to overcome by 1986 through CMP may not be corrected for many years.

We recognize that redesigning its software presents SSA with a large and complex task—as evidenced by the need to reduce the scope of CMP. To deal with such a complex effort, SSA needs to follow good systems development practices. However, because SSA has not followed such practices in two key areas—developing software standards and pilot testing—SSA could be creating systems that are vulnerable to problems similar to those it has experienced in the past. Without standards for testing, documenting, and validating software, future modifications to improve the systems or to implement legislative requirements could be difficult and costly. Without an adequate test of a prototype of its planned system, SSA cannot develop sufficient information for current and future software redesign, nor can the agency determine how well the software will perform on the planned complement of equipment. Also, it cannot determine the type and amount of hardware needed to implement the software.

Despite the reduced scope of CMP, the delays being experienced, and the inadequate pilot test, SSA has contracted to procure the full complement of terminals to support the original CMP. We questioned the need for the full complement in an earlier report, and, because of the issues discussed in this report, we reaffirm our concern about the quantity of that equipment. Since SSA has proceeded with the contract, it is now faced with other alternatives, such as renegotiating current quantities and delivery schedules.

Given SSA's limited progress in modernizing its beneficiary-related software—which the agency has identified as critical to its goal of improved service to the public—it is not clear how the current approach will achieve that goal in a timely and cost-effective manner.

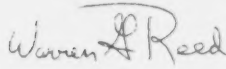
Recommendations

To avoid a continuation of the problems which have hindered SSA's software modernization effort and related hardware acquisitions, we recommend that the Secretary of Health and Human Services direct the Commissioner of the Social Security Administration to reassess SSA's approach to modernization, including determining the criticality of the deficient software areas originally included in CMP and prioritizing the redesign of that software accordingly. SSA should then do the following:

- Develop time frames and cost estimates for achieving the redesign.
- Conduct a prototype test that reflects the results of the reassessment and is designed to include an evaluation of the performance of the total hardware configuration and software components as they are developed. At a minimum, the test should include verifying operational performance and additional equipment needs, and the impact on field office positions, as well as evaluating the impact on the overall program objective of improving service to the public.
- Reconsider the quantity of hardware needed and the timing of its installation. If the reassessment discloses that the quantity of hardware being procured, as well as the installation schedule of such hardware, exceeds the needs of the scaled back and delayed CMP, we recommend that SSA consider cost-effective alternatives, including renegotiation of the hardware contracts. Since the installation schedules have been established in the contract, SSA needs to give priority attention to this recommendation.

Finally, as we have in previous reports, we again recommend that SSA complete development of software standards and apply these standards in future software development in order to reduce the level of risk inherent in the agency's software improvement practices.

We are sending copies of this report to the appropriate House and Senate Committees; the Secretary of Health and Human Services; the SSA Commissioner; the Administrator of General Services; the Director, Office of Management and Budget; and to other interested parties upon request.

A handwritten signature in dark ink, appearing to read "Warren G. Reed". The signature is written in a cursive style with a large, stylized "R".

Warren G. Reed
Director

Request Letter

[illegible]

United States Senate
COMMITTEE ON APPROPRIATIONS
WASHINGTON, DC 20510
December 18, 1985

Honorable Charles A. Bowsher
Comptroller General of the United States
Washington, D.C. 20548

Dear Mr. Comptroller General:

On May 2, 1985 we sent you a letter requesting, by January 1986, an evaluation of the extent to which automation might permit Social Security Administration (SSA) staffing cuts without a decline in services to social security recipients. On May 1, 1986, SSA's Director of Research provided us with a briefing on the status of SSA's proposed staff cuts and office closings. The purpose of this letter was to expand our original request to encompass all proposed cuts and to request a separate study focusing on SSA's automation effort.

We are interested in where staffing cuts are taking place, the basis for future cuts, and any discernible impact of staffing reductions. We are especially interested in those reductions which SSA directly attributes to automation improvements. We understand that a major portion of those cuts are from: (1) the Claims Modernization Project (CMP) -- about 3,400 positions and (2) reductions in SSA/Baltimore ADP staff -- about 1,000 positions.

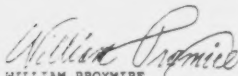
Because we would like to use your findings on these matters in the appropriations hearings next year, we are asking that you provide the results of your analysis of the above to use by March 15, 1986, and assist us in preparing them for the hearing.

Also, because CMP is a major part of SSA's automation effort, we would also like you to do an in-depth study of CMP and report the results to us by mid-summer of 1986. The study should examine: (1) whether or not the CMP is adequately

Appendix
Request Letter

Honorable Charles A. Bowsher
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December 18, 1985

addressed in the risk analysis recommended by GAO's August 30 report (IMTEC-85-15): (2) the management of CMP systems development; (3) whether CMP is a cosmetic "front end" data retrieval system or a complete redesign of the application software; and (4) the impact of CMP on other ADP modernization efforts, including the Data Communication Utility and Data Base Integration Projects.



WILLIAM PROXMIRE
Ranking Minority Member

Sincerely,



LOWELL WEICKER, JR.
Chairman
Subcommittee on Labor-HHS-
Education Appropriations

LAWTON CHILES

COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES ON THE
GENERAL ACCOUNTING OFFICE FINAL REPORT, "SOFTWARE SYSTEMS: SSA
ENCOUNTERING SIGNIFICANT DELAYS IN ITS CLAIMS MODERNIZATION
PROJECT"

General

In 1982 the Social Security Administration (SSA) announced a comprehensive plan to overhaul its large and outdated computer processes. The Systems Modernization Plan is built upon a series of specific initiatives which, taken together, comprise a plan and timetable for the Agency's undertaking. In overhauling its very large claims processing and benefit payment systems and computer operations, SSA has taken on a very complex task.

We believe that the General Accounting Office report on the Claims Modernization Project does not adequately describe the progress or status of the Claims Modernization Project. This may be the result of confusion within the report between the Claims Modernization Project, which has made excellent progress, and another major project, the Program Benefits Project, which was begun later. Because of this confusion, the recommendations relating specifically to the Claims Modernization Project are not relevant or valid, and we cannot agree with them. However, we do agree with other General Accounting Office recommendations that SSA should assess carefully the need for its planned quantity of terminals and that SSA should develop and apply sound software standards. Below, we indicate how we are addressing these latter recommendations.

SSA's benefit payment systems fall into two categories: the Retirement, Survivors and Disability Insurance programs; and the Supplemental Security Income program. Two major processes support the benefit payment systems: (1) claims processing, which includes processing applications for retirement, survivors, disability, and supplemental security income benefits and (2) postentitlement, the process that maintains beneficiary payment records, including processing changes of address, changes in work status and many other changes in circumstances.

The Claims Modernization Project, begun in 1983, was established to redesign the initial claims process. The larger follow-on project known as Program Benefits, initiated in 1984, addresses postentitlement and all aspects of supplemental security income. The Program Benefits Project, initially separate from the Claims Modernization Project, grew out of SSA's Business Systems Planning and top-down analysis activities outlined in the original Systems Modernization Plan.

The Claims Modernization Project provided the basic architectural foundation on which the modernization of the remainder of claims and postentitlement is based. It was charged with designing and developing an entirely modernized, interactive claims-taking

process, and has successfully done so. In design, the Claims Modernization Project was based on a set of scheduled software releases, beginning in March 1985. Except for two releases, every Claims Modernization Project software package has been on schedule, or ahead of schedule--a significant accomplishment for a major systems project.

The Claims Modernization Project has upgraded SSA's service to the public. Members of Congress and their staffs are encouraged to visit any of SSA's modernized offices, including the office on "M" Street in Washington, D.C. (scheduled for opening in March 1987).

General Accounting Office Recommendation

That the Secretary of Health and Human Services direct the Commissioner of the Social Security Administration to reassess SSA's approach to modernization, including determining the criticality of the deficient software areas originally included in the Claims Modernization Project and prioritizing the redesign of that software accordingly.

Department Comment

As mentioned in our general comments above, the scope of the Claims Modernization Project has not changed. Postentitlement activity is an important part of another major modernization effort, the Program Benefits Project, which is scheduled to follow the completion of the Claims Modernization Project. Work is in progress on prototype software for the new postentitlement system. Completion of postentitlement logically follows the filing of a claim which is the basis for entitlement. This sequence in the development of software assures that data flows through the system from the claims process to the postentitlement process in the most effective and efficient manner. Post-entitlement, therefore, is properly placed in the later Program Benefits Project, and not in the Claims Modernization Project. Postentitlement will be one of the first Program Benefits software packages to be completed and released.

The General Accounting Office seems to have mixed aspects of the Program Benefits Project with the Claims Modernization Project activities. It is true that firm schedules for completion of Program Benefits software, including postentitlement, are not yet available. Specific release dates will be scheduled once the functional requirements are completed. It is also true that SSA has experienced some delays in completing functional requirements for Program Benefits Project activities--not an unusual occurrence in a redesign effort of this size. Awaiting the completion of functional requirements before scheduling software release dates constitutes good systems development practice. It is consistent with the system standards and management practices the General Accounting Office fostered in this as well as other SSA audit reports.

There have been delays in the Program Benefits effort which have resulted, in part, from inadequate priority setting. Approximately 260 active projects have comprised the Agency's automated data processing effort, and priorities have not been systematically reviewed by senior staff. SSA is now in the process of setting priorities among the projects to assure that resources and effort are directed to the highest priorities. Program Benefits projects will be among the highest priorities.

Delays in the Program Benefits area do not affect the Claims Modernization Project. Indeed, where scheduled completion dates are concerned, the Claims Modernization Project has a remarkable record of timeliness. Beginning with the first completed software, released in March 1985, the Claims Modernization Project has released eight major software packages totaling 1 1/2 million lines of computer code. Of the eight releases, schedule revisions occurred only three times, and only two of the revisions caused delays. The first revision was made to shorten due dates so that four software packages could be released ahead of schedule. The second revision extended a release date in order to enlarge the capability of the software, and increase its functionality. A third revision occurred partly because of delays in completing the software and partly because of the expansion of other software capabilities mentioned above.

The Claims Modernization Project pilot project has processed over 30,000 cases in a nationwide network of 20 modernized offices and over 40 other claims processing support sites. The Claims Modernization Project software now in place will, when all offices are fully equipped, process SSA's entire annual workload of over four million retirement, survivors and disability insurance claims applications. In the Phase I pilot offices SSA has realized a 20.6 percent reduction in its processing time, as compared to only a 7 percent drop in processing time achieved in other SSA offices.

General Accounting Office Recommendation

That SSA develop time frames and cost estimates for achieving the redesign (as recommended above).

Department Comment

SSA has produced detailed work plans throughout the project life of the Claims Modernization Project. Its target dates have been documented, publicized through the annual updated Systems Modernization Plan, and shared with General Accounting Office auditors.

General Accounting Office Recommendation

That SSA conduct a prototype test that reflects the results of the reassessment (as recommended above) and is designed to include an evaluation of the performance of the total hardware

configuration and software components as they are developed. At a minimum, the test should include verifying operational performance and additional equipment needs, and the impact on field office positions, as well as evaluating the impact on the overall program objective of improving service to the public.

Department Comment

A great deal of work has been done by SSA to assess the performance of the Claims Modernization Project. Over a period of 2 years, SSA developed and used detailed, sophisticated computer models to measure and predict total system performance. The models employ commercially available and proven software that is widely accepted by industry. SSA has had expert contractor assistance in developing the models, and has produced over 24 monthly reports based on actual data collected by the Claims Modernization Project pilot offices. SSA has already made pilot test revisions as the testing process has evolved over 2 years.

Concerning pilot office operations, the General Accounting Office is correct that SSA planned to install approximately 20 terminals in each pilot office. In 18 offices, SSA installed only 3 to 4 terminals initially. The General Accounting Office is also correct in stating that SSA originally was prevented from procuring the 20 terminals for each pilot office under current procurement rules. However, the General Accounting Office is not correct in assuming that SSA did not get much value out of the pilot offices. The additional terminals would have allowed more transactions and would have helped train pilot office staff faster, but the fact is that the 3 to 4 terminals, which have been installed for over 1 year, provided valuable experience. As of November 1986 all the pilots had their full complement of terminals.

SSA has an ongoing initiative to assess the impact of the Claims Modernization Project on field office positions. The initiative involves measuring the impact of new software and hardware on selected field office positions using a variety of measurement techniques in the pilot offices. The first study was conducted in 1984 in the two initial Claims Modernization Project pilot offices, York, Pennsylvania and Baltimore, Maryland before the hardware and software were installed and was used to forecast the impact the new terminals and software could be expected to have on data review and data entry positions. A similar study was conducted during 1985 in the 18 other pilot offices.

Once the Claims Modernization Project hardware and software became fully operational in the York and Baltimore pilot offices in May 1985, SSA conducted further study on the actual impact of the Claims Modernization Project on key positions in those offices. The results of these measurements under actual operating conditions were consistent with the projections made based on data from the earlier studies. This study also indicated the probable directions of changes which the Claims

Modernization Project would bring to the other key field office positions - claims representative, service representative, and development clerk. A second followup study in the same two offices will provide additional findings within several months. In addition, planning is underway for expanding the impact analysis into the 18 other pilot offices during 1987 now that these offices are operating in a live Claims Modernization Project environment. Copies of the completed studies have been provided to the General Accounting Office; studies currently in process or planned for this calendar year will be provided when completed.

On page 11 of the report, the General Accounting Office states, "...SSA has no plans to collect data on client waiting times, client satisfaction...." This is incorrect. Since January 1986, SSA has conducted surveys of client waiting time in field offices. In addition, in August 1986 a decision was made to contract for an independent survey of client satisfaction to ensure maximum objectivity. This is a part of SSA's review of its service delivery overall to respond to the changing service demands of the modern claimant who increasingly is seeking more accessible and efficient service by telephone and by mail that parallels his or her preferred way of doing business with other financial service providers.

General Accounting Office Recommendation

That SSA reconsider the quantity of hardware needed and the timing of its installation. If the reassessment discloses that the quantity of hardware being procured, as well as the installation schedule of such hardware, exceeds the needs of the scaled back and delayed Claims Modernization Project, SSA should consider cost-effective alternatives, including renegotiation of the hardware contracts. Since the installation schedules have been established in the contract, SSA needs to give priority attention to this recommendation.

Department Comment

SSA is confident about its analysis and projections for the need for 23,000 terminals. SSA has followed prudent procurement practices by planning for a contingent, optional quantity of up to 16,000 terminals should any part of that number be needed in the future. At the same time, if actual utilization experience indicates that fewer terminals are needed, SSA will consider cost-effective alternatives for adjusting the number of terminals installed.

It should be noted that the entire network of 23,000 new, modern, standard color terminals costs significantly less than SSA's current network of 4,200 monochromatic terminals. Indeed, with a

unit cost of \$750 per terminal and a systems life of 5 years, it is a certainty that SSA will receive at least \$150 worth of productivity and service benefits per terminal annually from this purchase.

The terminals SSA is purchasing provide direct access to all of SSA's programs and software, allowing immediate verification of account numbers, immediate access to an individual's earnings record, immediate access to benefit payment records, and immediate, direct access to all of SSA's benefit processing software.

Most important, the new communications system will expand SSA's ability to serve the public. By increasing the network of terminals from about two in each office (used primarily for batch entry) to a network providing terminal access for all SSA interviewers, the agency will serve the public more quickly and efficiently.

General Accounting Office Recommendation

That SSA complete development of software standards and apply these standards in future software development in order to reduce the level of risk inherent in the agency's software improvement practices.

Department Comment

We agree. Software standards are a vital necessity, and SSA has committed itself to developing and following software standards. In June 1986, SSA completed an extensive upgrade of its software standards (which are formalized in its Software Engineering Technology). This upgrade addressed the standards (including documentation) and guidelines, procedures, software tools, quality assurance, and training to be used on all systems development activities from initial planning and analysis for a system through its design, development and validation. These standards cover all phases of the development of a system.

SSA also recognizes that system life cycle standards need to continually evolve as the technology and discipline of software engineering matures. Accordingly, in both March and September of 1987, SSA will release enhancements to its Software Engineering Technology which refine existing standards, as well as enhancements which formalize standards and procedures for postimplementation phases. New software development follows Software Engineering Technology standards, and automated management mechanisms exist to enforce adherence to these standards.

It should be mentioned that applying software standards is not limited to the Claims Modernization Project. SSA is applying standards to all types of modernization projects as well as day-to-day maintenance projects. For example, SSA's very

successful Critical Payments System, which provides replacements for lost checks in a matter of days, was completely implemented based on these standards. Similarly, a project to issue 40 million annual benefit information statements used in preparing tax returns followed the standards and achieved a 99.8 percent automation rate.

Other Matters

SSA is committed to providing high quality, effective, and cost-efficient services to the public in a business-like environment. Using appropriate technology, such as teleservice and computer terminals, is a means toward that end. The terminals will permit faster turnaround times on claims processing and more logically structured and accurate interviews that will reduce the need for recontacts with applicants. In addition, SSA will be able to provide its clientele with immediate access to information that will verify earnings records, determine actual or projected benefit estimates and verify the accuracy of benefit payments. Using appropriate technology improves service delivery now and prepares for the future when the number of beneficiaries are projected to increase. SSA is committed to plan for and meet this future demand with continued high-quality and responsive service to the public.



HUMAN RESOURCES

WEDNESDAY, FEBRUARY 25, 1987

U.S. SENATE,
COMMITTEE ON THE BUDGET,
Washington, DC.

The committee met, pursuant to notice, at 2:05 p.m., in room SD-608, Dirksen Senate Office Building, Hon. Lawton Chiles (chairman of the committee) presiding.

Present: Senators Chiles, Sasser, Riegle, Lautenberg, Simon, Dodd, Domenici, Grassley, Danforth, and Nickles.

Staff present: Richard N. Brandon, staff director; and Kathy Deignan, group leader for human resources.

For the minority: G. William Hoagland, staff director; and Michael Carozza, senior analyst for human resources.

OPENING STATEMENT OF CHAIRMAN CHILES

Chairman CHILES. The hearing will come to order.

This afternoon we want to welcome a distinguished group of experts to a hearing on catastrophic health insurance. With us today are Joseph Califano, Jr., a prominent attorney and former Secretary of HEW, Dr. Uwe Reinhardt and Dr. Stuart Altman, leading scholars on health policy and health economics. Dr. Altman is also the Chairman of the Medicare Prospective Payment Assessment Commission. Dr. Reinhardt is a member of the Medicare Physician Payment Review Commission.

We are pleased to have you join us, not just because of your expertise, but because we finally have a chance to talk about the real possibility of catastrophic health insurance.

It seems to me that the administration never would have considered an alternative like this had it not been for Dr. Otis Bowen. As Secretary of the Department of Health and Human Services and as a physician, he was walking on uncertain ground with this idea. But he pushed and he pushed hard, and now we have the chance to get something done.

COMMITTED TO MOVE ON PLAN

We are absolutely committed to moving on a plan this year and we can do it. The administration is on board. But since the White House is something of an unexpected convert, we have a responsibility to be systematic. And I think we do not want to get into the Dickens dilemma where we start off with Great Expectations and end up with Bleak House.

We have been trying to get a handle on catastrophic health insurance for years. But if we leap without looking first, we could end up with a program we will not be able to finance over the long haul.

We could increase costs more, which would hurt the elderly more than anything else. Or, with so many pressing needs but a huge deficit still with us, there is a chance that other crucial programs for senior citizens might suffer if we move too fast.

So we have to ask some realistic questions. How can we make the program self-financing at realistic cost? What areas should be covered first, and who will be eligible? What must be done right from the start to build-in a way to hold down costs?

A generation ago, we began Medicare with high hopes but no cost control. In 1973, Medicare spent \$8 billion. Today, it is up to \$73 billion, and it was only 3 years ago that we finally put in a cost control system.

Let us not repeat that situation now, especially when we have the chance to do something about it at the outset.

Each of these are key issues and there are many others. We have answered the biggest question. We have decided it is time to move on catastrophic health insurance.

We owe it to all of the people whose hopes have been raised to make sure the program does exactly what it promised it was going to do at a price that we can afford.

Senator Domenici?

OPENING STATEMENT OF SENATOR DOMENICI

Senator DOMENICI. Thank you very much, Mr. Chairman.

Obviously, I am delighted to be here with you and with our distinguished guests and I thank Secretary Califano for joining us.

Two weeks ago, Mr. Chairman, I held a meeting in my home State of New Mexico on catastrophic health insurance and I spoke with members of the public who had very high medical costs. Incredible as it may seem, I had one marvelous young lady and \$250,000 was the cost for her heart disease.

CATASTROPHIC ILLNESS MAJOR FINANCIAL PROBLEM

Representatives of the elderly groups, health providers and private insurers were there. It is clear that catastrophic illness is not just a health problem but a very major financial problem as well.

Let me just set the stage with a few preliminary facts as I understand them: Between 1.5 and 3.4 percent of Americans have catastrophic health expenses in 1 year, depending on how the expenses are counted. Between 3.4 and 8 percent of the elderly have catastrophic expenses.

Medicare covers only about one-half of the health care expenses of the elderly. Long-term care, prescription drugs, et cetera, are not covered at all. This is a problem for all Americans, but certainly it is a major problem for the elderly.

I compliment the President and Secretary Bowen on their catastrophic health insurance proposal, but I think all of us in this room know that this is not a new issue. As a matter of fact, Mr. Chairman, you might remember, because I even shared it with you

in 1979, that I joined with two other Senators in introducing what we thought was the major change in health care. Interestingly enough, the world turns but it always comes back to where it started.

I look back at that 1979 bill and realize that it is pretty solid even today. We need to build upon current programs like medicare and medicaid, employer provided insurance, and the private insurance industry. Each has made a contribution to the health care of America and we do not have to tear down these existing structures.

SERIOUS CONCERNS MUST BE RECOGNIZED

We also must recognize that we have some other very serious concerns. We cannot expand medicare without keeping the trust fund solvent, and we cannot increase medicaid without examining its effect on State and Federal finances. Furthermore, we cannot require so much so quickly of private employers that it costs jobs or worsens our position in world markets, so that we end up with more unemployment.

With these concerns, I still see a great opportunity to improve the health and financial well-being of Americans who are unfortunate enough to suffer from catastrophic illness.

Several of my colleagues, as you well know, Mr. Chairman, are working on legislation in this area. There is a good chance that Congress can pass something significant in the area of catastrophic health insurance this year. It may not address all the concerns and all the problems that we raise today, but it will go a long way toward relieving the heavy financial burdens that fall on those, especially the elderly, who already suffer from devastating illnesses.

I look forward to the witnesses sharing their views and experiences with us.

Thank you very much.

Chairman CHILES. Thank you very much. You know we are delighted to have you with us and we look forward to your testimony. I trust we do not have to bring an ash tray to you.

STATEMENT OF JOSEPH A. CALIFANO, JR., FORMER SECRETARY OF HEALTH, EDUCATION, AND WELFARE

Mr. CALIFANO. I am delighted that there is no smoking in the hearing room, Mr. Chairman.

I would like to, if I may, Mr. Chairman, insert my entire statement in the record and just cover certain parts of it in my presentation.¹

Chairman CHILES. It will be.

Mr. CALIFANO. Thank you.

I greatly appreciate the opportunity, the invitation to testify on catastrophic health care before this committee.

You and your colleagues are to be congratulated for moving promptly to grapple with what is surely one of our Nation's toughest health care challenges: How to protect our citizens from the devastating impact of catastrophic illness without unleashing a

¹ See p. 131.

blizzard of inflationary and unnecessary medical services at the dizzy heights of the health care cost mountain.

MEDICAL SERVICES FOLLOW REIMBURSEMENT DOLLARS

There is one incontrovertible law of health care: Medical services follow reimbursement dollars the way an alley cat pursues the scent of fish in the garbage. If a third party pays, patients will want and doctors and hospitals will provide. We must mind this historically demonstrated fact as we craft a catastrophic health care plan. If we do not, we could create a surge of spending on high-ticket medicine, as you have indicated, Mr. Chairman, that will make the inflationary storm that followed Medicare and the open-ended big corporate health plans of the late sixties look like a summer's breeze.

FIRST FOUR GENERATION SOCIETY

We also need to take a long view. America is at the dawn of the first four-generation society in the history of the world. As the 20th century makes way for the 21st, we will become a society in which it is common to have two generations of the same family in retirement, on Social Security, on Medicare, and needing nursing or home health care.

Americans 65 and over account for more than one-third of our personal health care expenditures, although they comprise only 12 percent of the population. At almost twice that proportion of the population in the first quarter of the next century, will the elderly require two-thirds of a vastly increased national health care budget? They will if we continue as we have.

At the same time, our over-85 population will more than triple, quintupling its percentage of the total population from 1 to 5 percent. The growth of the frail elderly signals not only rises in medical costs but also in the need for home health assistance and nursing home care.

HEALTH CARE INFLATION

Another crucial consideration we must keep in mind is that, after a modest slowdown, health care price inflation has reasserted itself with the vengeance of a Khomenian hijacker. Last year, as the overall consumer price index rose by only 1.1 percent, the index for medical care rose an incredible 7.7 percent, seven times as fast.

A study by Prof. Uwe Reinhart, who will testify here today, shows that in real dollars we have had a higher rate of increase in health care expenditures during the last 5 years than at any time in the history of our nation.

If economics is the dismal science, then health care economics must be its darkest corner.

It is against this rather gloomy backdrop that the Congress views strategies to achieve a measure of protection for our citizens against the ravages of catastrophic health expenses. The seriousness of this long-standing need is now widely acknowledged. It is the one point on which both President Reagan and Senator Kennedy agree.

The need is great, not only for the elderly but for millions of working Americans and their families. And despite the very real benefits of medicare, it pays less than half the total health care bill of the elderly, as Senator Domenici indicated.

CATASTROPHIC CARE

The administration estimates that one million Medicare beneficiaries are liable for more than \$2,000 a year solely for Medicare covered services. This \$2,000 does not include spending for big-ticket items like prescription drugs, long-term care and vision and dental care, which Medicare does not reimburse.

If anything, the need for catastrophic insurance against long-term care costs may be even greater than the need for acute care protection. One recent study estimated that for elderly persons with more than \$2,000 in out-of-pocket expenses in a year, more than 80 percent of those expenses were for nursing home care.

At an average cost approaching \$25,000 per year, it does not take much time in a nursing home to create a financial catastrophe for our elderly citizens who have an annual average income of about \$15,000 a year. Many of these are forced to spend down their assets—a genteel term for a modern version of a pauper's prison without bars—until they qualify for Medicaid which does pay for long-term care.

The third major component of the catastrophic care problem is the staggering number of people under age 65 who do not have health insurance. Almost 40 million Americans, three-fourths of whom are employed or a dependent of an employed person, are without health insurance for all or part of a year. Typically, they work for low wages in small businesses with less than 25 employees. Almost half of the uninsured are married and over 30 years old. About 60 percent of the uninsured are employed full time.

The number of uninsured jumped 30 percent between 1980 and 1985. When those with inadequate insurance are added, 55 million Americans each year face access problems and are subject to financial catastrophe in the event of a major illness.

The physical, psychological and financial burdens fall most directly on the uninsured and their children and spouses. But the costs are shared by all of us, and especially those companies that do provide health insurance for their employees.

The total cost of uncompensated care provided by hospitals is about \$9.5 billion, a large portion of which represents additional costs to companies that provide health benefits to their employees.

I believe we can take immediate action on two of these three aspects of the catastrophic care problem, the under-65 uninsured and acute care for the elderly.

For the third aspect, the long-term care problem, whether in the home or in an institution, we need time to devise financing mechanisms in the public and private sectors.

REQUIRE EMPLOYER PROVIDED HEALTH CARE

First, the uninsured: To address this problem, I suggest we build on the best in our health care system. Most Americans, about 145 million, have health care coverage through their employment rela-

tionship. Let us build on that achievement. Let us simply require that each employer assure its employees of a minimum level of health care and protection against catastrophic costs: physician treatment, hospitalization, preventive services for the employee and his or her family.

The employer could provide that care however it wished: through insurance, a health maintenance organization, preferred provider contracts, or directly. But the employer would have to pay only the cost of such coverage under the least expensive plan. Other plans could, of course, be offered. If the employer did not choose to pay the extra expense, the employee would have to pay the difference. This would encourage competition in the marketplace and press employers and workers to seek the best plan at the lowest cost.

For small employers and the self-employed, a mechanism should be developed to provide competitive group rates and access to health maintenance organizations and preferred providers. Currently, small businesses face premiums as much as 40 percent higher than those paid by large companies.

All employers, of course, would remain free to provide greater health care benefits, and unions would have the right to bargain for them.

That is it. We do not need a big bureaucracy or burdensome regulations. We do not need a budget-busting health program. What we need is a minimum health care law just as we have a minimum wage law.

MINIMUM WAGE

Chairman CHILES. What would you say is more important to have a minimum health care law or to do something in addition to the minimum wage law?

Mr. CALIFANO. Well, I guess I think it is essentially the same thing, Mr. Chairman. I am saying I guess that a worker has the right to a fair wage and that a minimum fair wage should include some minimum health care coverage.

Chairman CHILES. We are going to be debating whether we should raise the minimum wage. It is an interesting proposition you are raising. It makes me wonder whether we ought to look at this in tandem.

Mr. CALIFANO. I think in a real sense they are part of the same concept. I guess I would like to see established the fact that employees—since in this country we built our health programs largely on the basis of the employment relationship—that employees do have a right to some minimum package of health care benefits.

ACUTE CARE

Second, acute care for the elderly: Medicare should be restructured to provide a measure of catastrophic coverage for acute illnesses. The administration's proposal, although limited, is a good starting point. It is important to remember, however, that this proposal is, for many elderly, a minimal safety net. Why? Because a beneficiary must spend \$2,000 in out-of-pocket costs for Medicare-covered services before the stop-loss provision takes effect, and that beneficiary is still liable for the full amount of the noncovered ex-

penses that Senator Domenici mentioned, such as out-of-hospital prescription drugs and doctors' bills over and above medicare's reasonable charge standard. Thus, an elderly person could easily spend a total of \$4,000 to \$5,000 before the catastrophic coverage would kick in. That is one-quarter to one-third of the average annual income of people 65 and over.

COST CONTROLS AND CASE MANAGEMENT

I believe any plan should be accompanied, as you indicated, Mr. Chairman, by tough cost controls and incentives for case management. Hospital based physicians ought to be brought under DRG payments. Non-hospital based physicians should be required to accept medicare fees as payment in full.

These should be fees for illness (as obstetricians now charge for delivering a baby), no matter how many visits they have to make or how long it takes, rather than fees for each service that a doctor provides.

We should take meticulous precautions to avoid further tilting the health care system to the most expensive end of the spectrum. I hope that Congress will not craft a catastrophic plan that provides billions to tie our elderly to tubes and wires for their final weeks, months or years of life and not 1 cent to permit them the dignity of passing their final days at home or in a hospice, tied not to plastic, metal and wire, but held in the hands and arms of their loved ones and other caring human beings.

To help achieve this, any catastrophic health care proposal should provide that any person eligible for expensive, high-tech hospital care will also be permitted to choose home or less draconian institutional care and be guaranteed the same full reimbursement. This would demonstrate that we are at least beginning to learn from the history of a generation of tilting reimbursement to the most expensive form of care, a tilt that has plagued our health care system with so much inflation and so many unnecessary services.

Any catastrophic plan must not leave solely to individual doctors the determination of what care is medically advisable. Studies under Dr. John Wennberg of the Dartmouth Medical School have revealed variations in the practice of medicine so extreme and unwarranted as to require tight constraints on free-wheeling physicians to avoid unnecessary medical services.

A survey of Massachusetts surgery rates, for example, showed that if you lived in Hingham in 1984, you were four times more likely to have your gall bladder removed than if you lived in Holyoke and had the same symptoms. Residents of Fairhaven, Fitchburg, and Framingham were 15 times more likely to have tonsillectomies than people living in other Bay State areas where antibiotics were used to treat tonsillitis.

ERRATIC PRACTICE OF MEDICINE NATIONAL PHENOMENON

A study published just last year of 4.4 million Medicare beneficiaries living in 13 major regions, from Philadelphia to southern California, confirmed that the erratic practice of medicine is a national phenomenon.

Researchers found that, for 67 of the 123 medical and surgical procedures studied—more than—residents of the areas with the highest rates were at least three times as likely to be treated as those in areas with the lowest rates. If you lived in areas with the highest rates, for example, for the same symptoms, you were 11 times more likely to get a hip operation than not, six times more likely to have a knee replaced, three times more likely to have a coronary bypass surgery, five times more likely to get a skin biopsy, and 26 times more likely to receive hemorrhoid injections. And these stunning variations had no apparent relationship to health status.

Failure to set standards for which medical services will be paid for under what circumstances will give hospitals and doctors a blank check to draw on the Medicare Trust Fund and accelerate its depletion.

ELIMINATE HOSPITAL BEDS

Finally, it would be wise to eliminate at least 400,000 hospital beds before any catastrophic plan takes effect. Closing them will be hard labor. Everyone admits we have too many, they are just all in someone else's neighborhood, town or district or state. But the temptation of unnecessary empty beds and a new source of reimbursement will send hospital administrators scurrying to drag the eligible elderly in through the doors.

Most importantly, we should proceed incrementally and monitor carefully the health care industry's reaction to benefit changes and make adjustments to avoid inflation and unjustified utilization.

Mr. Chairman, perhaps no more severe test of the compassion and morality of our nation lies ahead for us than how we confront the crisis of our burgeoning elderly population. We must provide for our elderly a system of health care that permits them to live and die in dignity. The work of this committee is critical to achieving that goal.

Thank you, Mr. Chairman.

Chairman CHILES. Thank you very much, Mr. Califano.

[The prepared statement of Mr. Califano follows:]

STATEMENT OF
JOSEPH A. CALIFANO, JR.*

BEFORE
THE COMMITTEE ON THE BUDGET
OF THE U.S. SENATE

February 25, 1987

* Mr. Califano was Secretary of Health, Education and Welfare from 1977 to 1979, and President Lyndon Johnson's assistant for domestic affairs from 1965 to 1969. He is presently senior partner in the Washington office of the law firm of Dewey, Ballantine, Bushby, Palmer & Wood, and chairman of the health care committees of Chrysler Corporation and American Can Company. His most recent book, America's Health Care Revolution: Who Lives? Who Dies? Who Pays?, was published by Random House in 1986.

Mr. Chairman and Members of the Committee:

I greatly appreciate the invitation to testify on catastrophic health care before this committee.

Mr. Chairman, you and your colleagues are to be congratulated for moving promptly to grapple with what is surely one of our nation's toughest health care challenges: how to protect our citizens from the devastating impact of catastrophic illness without unleashing a blizzard of inflationary and unnecessary medical services at the dizzyest heights of the health care cost mountain.

There is one incontrovertible law of health care: medical services follow reimbursement dollars the way an alley cat pursues the scent of fish in the garbage. If a third party pays, patients will want and doctors and hospitals will provide. We must mind this historically demonstrated fact as we craft a catastrophic health care package. If we don't, we could create a surge of spending on high-ticket medicine that will make the inflationary storm that followed Medicare and the open-ended big corporation health plans of the late Sixties look like a summer's breeze.

We also have to take the long view. America is at the dawn of the first four-generation society in the history of the world. As the twentieth century makes way for the twenty-first, we will become a society in which it will be common to have two generations of the same family in retirement, on Social Security, on Medicare, and in the hospital or nursing home.

The implications of this demographic transformation are stunning in many respects, but nowhere is the aging of the American population more freighted with opportunity and danger than in the area of health care.

Americans 65 and over account for more than one-third of our personal health care expenditures, although they comprise only 12 percent of the population. At almost twice that proportion of the population in the first quarter of the next century, will the elderly require two-thirds of a vastly increased national health care budget? They will if we continue as we have.

At the same time, our over-85 population will more than triple, increasing its percentage of the total population from one to five percent. The growth of the frail elderly signals not only rises in medical costs but also home-health assistance and nursing care. Only one out of 20 people between the ages of 65 and 74 needs help walking, while eight out of 20 people 85 years and older need such help.

Any expansion of Medicare benefits must be weighed against this backdrop of demographically driven increases in demand.

Another crucial consideration we must keep in mind is that, after a modest slowdown, health care price inflation has reasserted itself with the vengeance of a Khomenian hijacker. Last year, as the overall consumer price index

rose by only 1.1 percent, the index for medical care rose an incredible 7.7 percent, seven times as fast.

A study by Professor Uwe Reinhart of Princeton University shows that, in real dollars, we have had a higher rate of increase in health care expenditures during the last five years than at anytime in the history of our nation. The preliminary projections for 1987 are ominous. At Chrysler Corporation, where we spent \$58 million less than planned for health care in 1984, price inflation presents a risk of our spending up to \$31 million more than planned for 1987.

If economics is the "dismal science", then health care economics must be its darkest corner.

It is against this rather gloomy backdrop that the Congress views strategies to achieve a measure of protection for our citizens against the ravages of catastrophic health expenses. The seriousness of this long-standing need is now widely acknowledged -- it is the one point on which President Reagan and Senator Kennedy agree.

The need is great, not only for the elderly but for millions of working age Americans and their children. The elderly are clearly the most vulnerable to a serious and costly illness. One of every five senior citizens is hospitalized each year and, of these, 22 percent will be back in the hospital within 60 days. Twenty-five percent of the elderly will spend time in a nursing home during their lives. And despite the very real benefits of Medicare, it

pays less than half of the total health care bill of the elderly.

Medigap insurance, held by about two-thirds of the elderly, pays for a small portion of the elderly's health bill. The average health care cost for people 65 and over in 1984 was \$4,202 of which more than \$1,000 was paid out-of-pocket. Private insurance paid about \$300. The Administration estimates that one million Medicare beneficiaries are liable for more than \$2,000 a year solely for Medicare covered services. This \$2,000 does not include spending for big-ticket items like prescription drugs, long-term care, and vision and dental care, which Medicare does not reimburse.

If anything, the need for catastrophic insurance against long-term care costs may be even greater than the need for acute care protection. One recent study estimated that for elderly persons with more than \$2,000 in out-of-pocket expenses in a year, more than 80 percent was for nursing home costs. Neither Medicare nor Medigap policies cover nursing home care beyond 100 days of skilled care immediately after a hospital stay. At an average cost approaching \$25,000 per year, it does not take much time in a nursing home to create a financial catastrophe for our elderly citizens who have an annual average income of about \$15,000. Many of these are forced to "spend down" their assets -- a genteel term for a modern version of a pauper's

prison without bars -- until they qualify for Medicaid which does pay for long-term care.

The third major component of the catastrophic care problem is the staggering number of people under age 65 who do not have health insurance. Almost forty million Americans -- three-fourths of whom are employed or a dependent of an employed person -- are without health insurance for all or part of a year. Typically they work for low wages in small businesses with less than 25 employees. Almost half of the uninsured are married and over 30 years old. About 60 percent are employed full-time.

The number of uninsured jumped 30 percent between 1980 and 1985. When those with inadequate insurance are added, 55 million Americans each year face access problems and are subject to financial catastrophe in the event of a major illness.

The physical, psychological and financial burdens fall most directly on the uninsured and their children and spouses. But the costs are shared by all of us, and especially those companies that do provide health insurance for their employees. The Medicare and Medicaid programs will not pay any portion of a hospital's bad debts or charity care, so when an uninsured person can't pay, that cost is shifted to private payers. Most often hospitals have simply folded the cost of uncompensated care, whether rendered voluntarily or in the form of bad debts, into their overall costs and then passed it along to private payers -- individ-

uals, commercial insurers, self-insuring corporations and Blue Cross.

The total annual cost of uncompensated care provided by hospitals is \$9.5 billion, a large portion of which represents additional costs to companies that provide health benefits to their employees. These costs add to the competitive disadvantage many firms already face in the international marketplace because of waste and inefficiency in the health care system.

I believe we can take immediate action on two of these three aspects of the catastrophic care problem: The under-65 uninsured and acute care for the elderly.

First, the uninsured. To address this problem, we should build on the best in our health care system. Most Americans, about 145 million, have health care coverage through their employment relationship. Let's build on that achievement. Let's simply require that each employer assure its employees of a minimum level of health care and protection against catastrophic costs: physician treatment, hospitalization, preventive services for the employee and his or her family. The employer could provide that care however it wished: through insurance, a health maintenance organization, preferred provider contracts, or directly. But the employer would have to pay only the cost of such coverage under the least expensive plan. Other plans could of course be offered. If the employer did not choose to pay the extra expense, the employee would have to pay the dif-

ference. This would encourage competition in the marketplace, and press employers and workers to seek the best plan at the lowest cost.

For the small employers and the self-employed, a mechanism should be developed to provide competitive group rates and access to health maintenance organizations and preferred providers. Currently, small businesses face premiums as much as 40 percent higher than those paid by large companies. In addition, the tax exemption for health insurance premiums should be extended to include the self-employed who purchase health care coverage that includes catastrophic protection. Currently, these individuals may deduct only 25 percent of the cost of insurance.

All employers would of course remain free to provide greater health care benefits, and unions would have the right to bargain for them.

That's it. We don't need a big bureaucracy or burdensome regulations. We don't need a budget-busting health program. What we need is a minimum health care law just as we have a minimum wage law.

Second, Medicare should be restructured to provide a measure of catastrophic coverage for acute illnesses. The Administration's proposal, although limited, is a good starting point. It is important to remember, however, that this proposal is, for many elderly, a very minimal safety net. Why? Because a beneficiary must spend \$2,000 in out-of-pocket costs for Medicare-covered services before the

stop-loss provision takes effect, and is still liable for the full amount of all non-covered expenses such as prescription drugs and doctor bills over and above Medicare's reasonable charge standard. Thus, an elderly person could easily spend a total of \$4,000 to \$5,000 before the catastrophic coverage became effective, one-quarter to one-third of the average annual income of people 65 and over.

Initially, catastrophic coverage should be self-funding through additional premiums. This is important until we have a chance to see how the health care system responds to a new reimbursement environment. While hospitals will continue to be constrained by DRGs, doctors may be less cautious in choosing high cost treatment once Medicare begins picking up the cost in full.

Any plan enacted should be accompanied by tough cost controls and incentives for case management. Hospital-based physicians ought to be brought under DRG payments. Non-hospital based physicians should be required to accept Medicare fees as payment in full. These should be fees for illness (as obstetricians now charge for delivering a baby), rather than fees for each service. At a minimum, the Medicare fee schedule should be restructured to combine (or in some cases recombine) the payment codes for many of the thousands of specific medical procedures that have proliferated over the years.

Medicare beneficiaries who join prepaid plans and preferred providers, should pay reduced premiums and such plans and providers should be fully compensated.

We must take meticulous precautions to avoid further tilting the health care system to the most expensive end of the spectrum. The Congress should not craft a catastrophic plan that provides billions to tie our elderly to tubes and wires for their final weeks, months or years of life and not one cent to permit them the dignity of passing their final days at home or in a hospice, tied not to plastic, metal and wire, but held in the hands and arms of their loved ones and caring human beings. To help achieve this, any catastrophic health care proposal should provide that any person eligible for expensive, high tech hospital care will be permitted to choose home or less draconian institutional care and be guaranteed the same full reimbursement.* This will demonstrate that we are at least beginning to learn from the history of a generation of tilting reimbursement to the most expensive form of care, a tilt that has plagued our health care system with so much inflation and so many unnecessary services.

Any catastrophic plan must not leave solely to individual doctors the determination of what care is medi-

* I should note that, while I am counsel to the National Association for Home Care, these views, like all others expressed today, are my own.

cally advisable. Studies using techniques developed by Dr. John E. Wennberg of the Dartmouth Medical School have revealed variations in the practice of medicine so extreme and unwarranted as to require tight constraints of free-wheeling physicians to avoid unnecessary medical services.

A survey of Massachusetts surgery rates showed that if you lived in Hingham in 1984, you were four times more likely to have your gall bladder removed than if you lived in Holyoke and had the same symptoms. Residents of Fairhaven, Fitchburg, and Framingham were fifteen times more likely to have tonsillectomies than people living in other Bay State areas where antibiotics are used to treat tonsillitis.

A study published last year of 4.4 million Medicare beneficiaries living in 13 major regions, from Philadelphia to southern California, confirmed that the erratic practice of medicine is a national phenomenon. Researchers found that, for 67 of the 123 medical and surgical procedures studied -- more than half -- residents of the areas with the highest rates were at least three times as likely to be treated as those in areas with the lowest rates. If you lived in the areas with the highest rates, for the same symptoms, you were 11 times more likely to get a hip operation, 6 times more likely to have a knee replaced, 3 times more likely to have coronary bypass surgery, 5 times more likely to get a skin biopsy, and 26 times more likely to

receive hemorrhoid injections. And these stunning variations had no apparent relationship to health status.

Adoption of more conservative surgical and medical practice styles by doctors could easily produce a 40 percent reduction in money spent for hospitalization alone -- a savings of more than \$60 billion a year.

Failure to set standards for which medical services will be paid for under what circumstances will give hospitals and doctors a blank check to draw on the Medicare Trust Fund and accelerate its depletion.

Finally, it would be wise to eliminate at least 400,000 hospital beds before any catastrophic plan takes effect. Closing them will be hard labor. Everyone admits we have too many -- they're just all in someone else's town, city or neighborhood. But the temptation of unnecessary empty beds and a new source of reimbursement will send hospital administrators scurrying to drag eligible elderly in through the doors.

A number of options have been proposed to avoid raising the Part B premium to cover the cost of catastrophic care. Most of these have been suggested in the past as means to assure the integrity of the Hospital Trust Fund, such as excise tax increases on cigarettes and alcohol, bringing state and local employees under Medicare, and taxing the actuarial value of Medicare benefits not paid for by beneficiaries.

The Trust Fund is projected to become insolvent in 1996, less than 10 years from now. My own view is that it would be better to make this initial catastrophic package self-supporting and at the same time strengthen the financial position of the Hospital Trust Fund. This could be achieved by raising taxes on cigarettes, equalizing and increasing the tax rates on beer, wine and spirits and earmarking the revenues for Medicare, and by bringing state and local government employees under Medicare. In due course, it would probably make sense to tax, at least for the upper income elderly, the portion of Medicare insurance value that is paid for by the general treasury and by employer contributions.

Most importantly, we should proceed incrementally, monitor carefully the health care industry's reaction to benefit changes and make adjustments to avoid inflation and unjustified utilization.

Perhaps no more severe test of compassion and morality lies ahead for the American nation than how we confront the crisis of our burgeoning elderly population. We must provide for our elderly a system of health care that permits them to live in dignity. The work of this Committee is critical to achieving that goal.

Mr. Chairman, I appreciate the opportunity to testify and I will be glad to answer any questions you may have.

Chairman CHILES. I think the record ought to reflect that when you were Secretary of HEW, you pushed very hard for hospital cost control. I think at that time the Congress did not respond. I would like to save more of that blame for the other body than this side of the Congress. But you certainly should be complimented as an advocate of cost control.

Senator Dodd?

Senator LAUTENBERG. Could I ask for one second, as a courtesy here. I am not going to stay and take any time. I just wanted to welcome Joe Califano, a fellow board member of mine in my earlier life. He has continued and I want to thank him for his constructive comments today and also to thank him publicly for advice he gave me when I asked him about running for the U.S. Senate. He said, "Frank, you will get no more satisfaction in your life than serving in government," and, Joe, I thank you for the advice and the contribution that you continue to make and welcome you here today.

Mr. CALIFANO. Thank you, Senator. You have been a great and—

Senator SIMON. He will accept any other contributions also. [Laughter.]

Chairman CHILES. Senator Dodd?

Senator DODD. Thank you, Mr. Chairman.

Let me welcome you here, Joe, this afternoon before the committee. As expected, your testimony is concise and clear and offers I think some very exciting suggestions on what we might do in the area of health care coverage and, of course, in the area of catastrophic.

PREVENTIVE CARE CHECKUPS NEEDED

I may have missed it, I tried to review quickly as you were reading your testimony. I really just have one question for you. Last year, I introduced an amendment to provide under Medicare a one or two-time a year—I forget which we did actually in the amendment, we did not get anywhere with it—a preventive checkup of reasonable costs without any deductible and so forth, but just to get at that whole issue of just trying to avoid what you have identified very clearly in your testimony and what your cowitnesses will talk about as well as they come up this afternoon.

We are told that cancer mortality could be cut by 50 percent with preventive care programs, just to identify the problem. By personal experience, my administrative assistant last year went for a mild checkup and discovered ovarian cancer and within 10 weeks she was back at work but was told at Yale New Haven that had they not picked it up that cancer will spread like wildfire. Today she could not be with us. A good checkup did it. The HMO's, of course, are historic.

I do not know if you mentioned that before. I know you did in the first part, your first suggestion with care, but in the catastrophic bill it seems to me that there ought to be a strong preventive care element in that proposal and you may have done it, and if you did I apologize.

Mr. CALIFANO. Senator, I agree with you 100 percent. I think there is no question that preventive care should be included. We will spend \$500 billion this year in this country on health care and we will spend less than 2 percent of it on health promotion and disease prevention. The payoff in an annual checkup would be enormous in terms of the costs of high-tech care. Also, it not only saves money in the health care area, it saves not only human lives but it also saves tremendous amounts of money in social security disability benefits.

Senator DODD. To what do you attribute the opposition. Historically there has been opposition to the notion of investing in preventive care, it seems to me, and I do not understand it.

Mr. CALIFANO. Well, in the public budget sector the problem is that each year's budget is looked at in isolation. In the initial stages, when you first put in preventive benefits, you will have substantial additional budget expenditures as people go and get their periodic physical examinations. You will not see the payoff in budget savings for a few years after that.

I think in the private sector there is a fairly significant push to preventive services. It is interesting, in the context of your mentioning it, if you look at most corporations today and most major unions require and pay full amounts for all their officers and high executives to have periodic checkups.

NURSING HOME CARE

Senator DODD. Well, I hope we will at least consider an element in the catastrophic bill that goes along those lines. And you are right, the argument I guess will be the cost initially, but the data just supports the benefits that would accrue.

You mentioned in the catastrophic bill as well nursing care, and you properly point out that you have got to virtually impoverish yourself before you qualify, which is outrageous, and some States, my own of Connecticut, are doing a lot better in that regard than other States. I wonder if you might spell out, if you could, in a little bit of detail how you would deal with that nursing care cost, because it is going to skyrocket.

Mr. CALIFANO. I think the nursing home problem, the problem of dealing with older Americans in their less than acute care situations or less than terminal illness situations is incredibly expensive.

I guess I see a few prongs to it. One, I think it is a financial problem, not a health problem in the sense that we really should turn some of our financial wizardry to figuring out how to accumulate the funds necessary to provide long-term care. I think you have got to provide it, whether it is savings, whether it is tax breaks, public expenditures, or some combination.

Secondly, if you look at what makes people need that care, by and large we are talking about the failure of memory, they can't remember what to do; secondly, they have difficulty in moving around, mobility, arthritis, they break a leg, they never recover; and, thirdly, incontinence, they just cannot toilet themselves. It would seem to me that in those areas we ought to be investing major amounts of research money.

We pay over a billion dollars to the National Cancer Institute and we are close to a billion dollars for the Health, Lung and Blood Institute for these acute care diseases. I think in those three areas we should be investing substantial amounts of money because if we can shorten the time during which an older person is immobile, cannot take care of himself, we can have a tremendous impact on the cost of that.

Senator DODD. I appreciate that answer. Of course, arguably, the present generation is far more conscious of saving than probably my generation is, and I think the statistics are that something like within a year or a year and a half, a matter of months, the savings of people are virtually wiped out with average nursing home care costs today. I think savings is an important element, obviously an important element, but I think if people assume, as some do, that by just encouraging that you are going to be able to assume the costs of this are deluding themselves.

I thank you for being here.

Mr. CALIFANO. Thank you, Senator.

Senator DODD. Thank you, Mr. Chairman.

Chairman CHILES. Thank you, sir.

Senator Domenici?

Senator DOMENICI. Mr. Califano, first let me join in the chorus of compliments on the statement that you have made. I can frankly tell you, for those of us who are working in this area, that your ideas have been constructive and I am sure will continue to be useful.

ARE DRG'S WORKING

With reference to cost containment, are the DGRs working?

Mr. CALIFANO. I personally believe from a distance that the DRGs are working. I think by and large they are probably too high. I mean hospitals are experiencing the highest profits in their history. The Congress has invariably increased the increase in the DRG payments above what the department has recommended.

The one area which I think should be expanded to compliment the DRG system is, as we move people out of hospitals sooner, we should provide some kind of less intensive care, whether it is home health care or nursing home care temporarily for people that are moved out sooner.

The third thing is I think the Congress really does have to look at putting a cap on expenditures outside the hospital because the health care system is still supplier controlled and like a pillow. In many parts of the country today it is more expensive to have a cataract removed in a doctor's office than in a hospital because there are DRGs for the hospital cataract payment and there is no limit on the doctor's payment. I think if you ask HHS, you will discover that the payments under part B are, in many areas of the country, for cataract operations exceeding the payments under the hospital DRG. So you cannot just nail down one part of the system.

You will have economists here testifying who are a lot smarter about it than I am.

INSURANCE LESS FOR LARGE EMPLOYERS THAN SMALL ONES

Senator DOMENICI. You mentioned in your testimony that one way to approach the uninsured part of our population is to mandate employer provided health insurance for coverage of employees. Unless I misunderstood, you indicated there was a rather significant disparity between the costs for very large employers who provided insurance and that of small businesses. I think you said 40 percent higher or—

Mr. CALIFANO. It is much more expensive for a small businessman who does not have access to a large group and does not have the kind of bargaining power a large corporation has with an insurance company.

Senator DOMENICI. What do we do about that?

Mr. CALIFANO. Well, I think we do two things, I guess: One, we have to provide a mechanism, whether it is a consortium of insurance companies or a government corporation for some way for small businesses to combine to get into a larger group, to give them the same costs that a large corporation has.

And I guess, second, if you went the route of mandating a minimum health care law as we have a minimum wage law, you would phase it in, picking up the larger corporations first and giving time to get these other mechanisms in place before you brought the small businesses fully under it.

Senator DOMENICI. You mentioned—

Mr. CALIFANO. What happens is that the large corporation is in effect and the large unions are in effect paying for much of this uncompensated care in their premiums, because Medicare will not pay for bad debts or charity care under the law, and to the extent hospitals are able to do it they pass it off on their other payers.

HIGH BILL WRITTEN OFF BY HOSPITAL

Senator DOMENICI. Would it surprise you if a majority of the hospitals said that extremely large bills for chronic health care are not as big a problem as some say because most of them, I hate to say this, just write them off? Would it surprise you if that is what they told you across this country?

Mr. CALIFANO. Well, I think that would not surprise me. I think it does not take a \$300,000 bill for somebody to suffer a catastrophe, and those enormous bills are not as frequent as you might think from reading the newspapers. But, you know, a \$10,000 or \$15,000 bill can wipe out and devastate most Americans.

Senator DOMENICI. So you are saying, in retort, for me to find out what is catastrophic when they tell me that?

PROVIDE ALTERNATE MEANS OF CARE

Mr. CALIFANO. I think that is correct. I would also say though, Senator, really, as I underline something I said in my testimony, I really believe that we know that if we tilt all the reimbursement towards the hospital, that is where people will go. We know doctors have sent people to the hospital under Medicare that did not have to go there and that is why I suggest at least is one of the things to do, in addition to some kind of cost controls, that you say for somebody who has got an acute care problem, this would be particularly

important for people near the end of their life, that, if you are eligible for the high-tech hospital care, we will also pay if you want to go to a hospice or stay home and not go through all that extraordinary stuff, we will pay that bill, too.

Senator DOMENICI. Now, you are distinguishing there—and this is my last question, Mr. Chairman—you are distinguishing between an acute illness for which the doctor would assign him or her to a hospital as compared with a completely different problem, as you discussed in your testimony, of just nursing home care?

Mr. CALIFANO. That is correct. That is correct, Senator.

Senator DOMENICI. Does it concern you that if we use the acute care definition, as you just described it, with the alternative of some kind of hospice and/or home health care, that the definition of "acute" would be expanded substantially and we would then have that as a nursing home approach as part of our paying for acute care?

Mr. CALIFANO. I do not think so. I think it would probably cost less money. I cannot prove that, but I will give you some examples from my experience at Chrysler. I chaired a committee on health care for the company, as we have gone into the data at Chrysler, we discovered two typical cases of very high costs which we moved to change. One relates to substance abuse and alcoholism, but the other, as we ran computers on our patients, relates to a group of patients who would go to the hospital and die 6 or 8, 9 weeks later, no care having been provided in the hospital. Essentially, as we started to analyze those cases, we discovered that they were sent there to die because there was no other mechanism under our insurance program that would pay to take care of them during those last weeks of life.

Senator DOMENICI. They were acutely ill?

Mr. CALIFANO. They were acutely ill. But what we have done now is provide for home care or hospice care or nursing home care for those people which we think will both save money and in many cases give them a little more dignity.

Senator DOMENICI. Thank you, Mr. Chairman.

Chairman CHILES. Senator Sasser.

Senator SASSER. Mr. Chairman, I am going to defer to Senator Simon.

Senator SIMON. I thank my colleague from Tennessee.

First, let me just add that Joe Califano, whether you were Secretary or what, you have always been a superb witness that brought light, rather than heat, to the scene.

HELP FOR THE PART-TIMER

Regarding your suggestion to mandate health care, I am very sympathetic with it. There is one problem that I see and I would be interested in your reflection on. Right now, because of fringe benefits, a lot of employers are shifting to part-time employees because they do not want to pay for health care for full-time employees, pension benefits and so forth. Do you have any reflections on how we handle that phenomenon?

Mr. CALIFANO. I think we either are going to have to require them in some way or other to provide, just as they have to pay

part-time employees the minimum wage, to require them to cover part-time employees. They have been able to do that recently because in many cases the family has coverage through a spouse. But that shift and the fact that so many people are not covered in these low-paying service jobs—and it is not always just small employers—is the reason why, as I think you are aware, Senator, we have the first time in the history of the United States of America a situation in which the unemployment has gone down, the number of people without health insurance has gone up. That has never happened before in our country. So I think we have to find a way to require them to provide that coverage.

COST OF COVERAGE

Senator SIMON. And the minimum coverage would cost roughly what?

Mr. CALIFANO. Well, the minimum coverage, it depends on what the coverage is. You have got, out of 240 million Americans, you have got 145 million Americans already covered. In most of the large corporations, the kind of minimum package I am talking about would be less than they are now providing.

Senator SIMON. But in practical terms, per person covered?

Mr. CALIFANO. I guess I really cannot answer that question. If we got the waste out of our system and we had a more competitive system, it would not cost anything in terms of the global \$500 billion we are spending and we are wasting 25 percent of it.

Senator SIMON. But assuming we do not eliminate the waste?

Mr. CALIFANO. I do not know. I guess you are talking about, in a good insurance package, something around \$1,000 a year, but I am really reluctant to put a number on that. I think you have got the computers up here that could run those numbers.

PLAN WOULD SAVE MONEY

Senator SIMON. Yes; I think it would be interesting for the staff to do that, because I think it ties in with the Chairman's question and I think it relates also to the kind of medicaid-medicare coverage costs that we are providing. My guess is, if we were to follow through on your plan, that you would see it drop in the medicaid expenditures. I do not see how we could avoid that.

Mr. CALIFANO. You would have a lot of people out there buying health care in competitive ways and that would be healthy I think in terms of the health care system and you would not need a big bureaucracy here in Washington to administer a national health plan.

CUTTING HOSPITAL BEDS SQUEEZES PEOPLE OUT

Senator SIMON. One other suggestion you have made is that we ought to reduce the numbers of hospital beds and cut back on the numbers of physicians, if I read you correctly. I am from rural southern Illinois. The physicians and hospitals in rural and poor areas probably would tend to get the squeeze.

In Oak Brook, IL, if I can pick on a wealthy suburb, there are plenty of physicians. Rural Pope County, which is desperately poor, is short of physicians.

Mr. CALIFANO. I think we are never going to get physicians in rural areas or in the inner-city ghettos unless we either conscript them in one way or another or provide reimbursement for them in national fee schedules, which I am sure Dr. Altman will talk about, so that they would be sure they would have reimbursement and reasonable pay.

We looked at the physician in rural areas problem when I was at HEW, we looked at it in this country, in poor areas. Every country in the world has that problem. We came to the conclusion—it was never really implemented because we left before we got a chance—that we would essentially let medical school tuitions go through the roof, which would in effect force every student to go into the National Health Service Corps. We would fund the National Health Service Corps, and we would provide medical care in those areas by essentially having every medical student spend 2 years paying off the student loan. We did not know of any other way to do it. Every other way we tried had failed.

We went through a period when we said, well, get more black doctors and they will go back to the ghettos. Well, that is not what happens. When you send a black doctor through Harvard Medical School, he does not necessarily want to go back to the ghetto. He will go practice like anybody else wants to practice.

As far as the hospitals are concerned, most of the hospital beds that would be closed, if you looked at the occupancy rates today, would not necessarily be in those rural areas. I mean if you look at New York City, somewhere between 15 and 25 percent of any beds, something has got to be done about that. The reality, if you could wire and have a look through a glass dome at a hospital trustees meeting in some of these major hospitals, they spend most of their time or a lot of their time saying how can we get more patients into the beds.

Senator SIMON. Thank you.

Chairman CHILES. Senator Danforth?

NEW MEDICAL TECHNOLOGIES WILL RAISE COSTS

Senator DANFORTH. Mr. Secretary, there is an article in the Journal of the American Medical Association a month or so ago and the point of the article was that in controlling the cost of health care we were reaching or about to reach the limits of what we could get by conventional DRG-type cost containment mechanisms. In other words, to date the thrust has been to try to reduce the length of stay where we could, but the point of the article was that the big explosion in health care costs is going to come from very expensive medical technologies. Medical research is going to make available what today would be thought to be exotic treatments. These treatments are going to be widely dispersed throughout the population and are going to be very, very costly. This is going to be, according to this article anyhow, the problem in the future of paying for health care.

I do not know if that is true or not. It seems to make sense, though. I mean the costs—Secretary Bowen testified at the Finance Committee a couple of days ago and he said that the costs of a heart transplant, which nobody had ever heard of a few decades

ago, was probably somewhere in the neighborhood of \$200,000. Do you think there should be any limit, in any kind of plan as to how much should be paid per patient?

Taking a hypothetical situation, suppose somebody is 70 years old, children grown, long since retired, and the doctor says, well, we could keep you alive maybe another year and it will cost a quarter of a million dollars to do it. What are the ethical problems there and what are the economic problems and how should we deal with that?

NURSING HOME COSTS OUR GREATEST COST

Mr. CALIFANO. Well, that is an enormous question. Let me just make a couple of comments. One, technology can also reduce the cost of care as opposed to increase it, to wit, the miracles of our pharmaceutical industry in this country.

Second, we have to recognize that the way our payment systems work, when new high-technology or new procedures become routine as an operation, the cost does not go down in the United States of America as it does in other countries. For example, the cost of coronary bypass surgery continues to rise because of the way we reimburse in this country; whereas, in Canada it is about \$1,100 for the physician fees for the operation, compared to \$4,500 in the United States. In our country, it continues to go up and we also, as I indicated in my testimony—I will not review it again—we also have wild variations in the way people practice medicine.

If you live in certain parts of this country, you are many times more likely to be subjected to certain procedures than in other parts of the country, with no difference in medical outcome. Those studies are under way, and every time another study is done they prove it even more so.

Having said all of that, I think the largest single number, if you want to talk about costs that this country faces, is not in the technology area but is taking care of the frail elderly in the nursing home area. That is why when I was Secretary of HEW and we were putting together a national health plan, the first thing we excluded was care in the nursing home because the numbers were so mind-blowing.

Senator Kennedy's most ambitious cradle to grave bill did not cover long-term nursing home care because the number was so big, and that is the number that we have to figure out a way to deal with.

Finally, I think we should have payment systems that encourage people to produce technological advances that are efficient and are not just simply expensive. But it is a factor.

FUNDING HIGH COST PROCEDURES

Senator DANFORTH. What do we do with the present situation? I mean suppose that the doctor says to me or anybody, to you, well, we could keep you alive for an extra year and it will cost a quarter of a million dollars to do it and, of course, you are not paying for it, it is being paid for under some program. Should the program pay for that?

Mr. CALIFANO. I think that when the government or the employer gets into the business of paying for health care, it is going to have to make a decision as to what it will pay for and what it will not pay for. I think the decision not to fund heart transplants under Medicare—

Senator DANFORTH. Now they are being funded.

Mr. CALIFANO. Now that has been changed, but I think the decision not to do it—they were originally funded and just after I left HEW funding was withdrawn, and I think those decisions make sense. We make decisions every day on the basis of social policy. We decide whether or not to fund abortions, we decide whether or not to fund preventive services. You are going to make decisions as to whether or not you will fund that \$250,000 operations.

There was a wonderful cartoon several months ago in which an old, old man was lying on a bed tied to wires and tubes, there are 150 wires coming down, and this young girl comes in and says, "Great-great-great-granddaddy, tell me, how did you live to be 212?" I think we are going to have to face those questions, like it or not, and I think we are going to end up opting not to fund with public funds many of those kinds of expenditures and up saying if you want to spend your own money, if you have it—

Senator DANFORTH. It is a very tough decision to make.

Mr. CALIFANO. This Congress makes those decisions every day. It is more dramatic when you personalize it like that, to make decisions about—

Senator DANFORTH. We could decide, for example, we will pay to keep you alive so long as it does not cost more than \$50,000.

Mr. CALIFANO. Or you could decide—

Senator DANFORTH. Would you make that kind of decision?

Mr. CALIFANO. I do not think I would make it in terms of dollars. But you made a decision to fund all kidney dialysis in this country. That is the one catastrophic disease that the Congress has decided through Medicare to pick up the tab on. You have not decided to pick up the tab on any other catastrophic disease without limit, why was that decision made? You have made those decisions before.

Now the making of those decisions is coming more into the public arena, and they are very tough decisions to make. I guess I would say it makes it more and more imperative that we get this system to be far more efficient so we have fewer and fewer of those decisions to make, and I fully continue to believe that at least 25 percent of what we spend on health care in this country is wasted. It is spent on medical services that are not producing a change in medical status or we are paying too much for services, far more than we should because of the way the payments are set.

I think maybe before you came in I noted in many parts of this country today—the first part of your question—we reached the limit on what we could control and not control. I am not arguing for controls. I would like as much competition as possible, but we have DRGs for cataract operations in the hospitals. We have no limits on what can be charged outside the hospital. In many parts of the United States it costs more to get a cataract removed in the doctor's office than it does in the hospital. Why? Because the system is still supplier controlled. That is who is controlling the

price, and you have not seen fit to put a lid on Part B payments under Medicare.

Chairman CHILES. Joe, you are a very popular witness and we are taking a lot of time. I know you have serious time constraints and we have a couple of other witnesses.

Do you have some questions?

Senator SASSER. Yes, I do, Mr. Chairman.

MEDICAL COST AND NEED OF LONG-TERM CARE

Mr. Chairman, I listened to Secretary Califano with great interest and I think he is one of the most knowledgeable men in this country on the issue of health care and the health care delivery system and what needs to be done with regard to catastrophic illness and long-term care protection.

I noted in your opening statement, Mr. Secretary, you said that the need for catastrophic insurance against long-term care costs may be even greater than the need for acute care protection. I find myself in some agreement with that statement.

I held the first hearings of the Budget Committee on the question of catastrophic illness, focusing principally on the need for long-term care, last year, and the overwhelming conclusion of all of the witnesses that testified was that something needed to be done desperately in the field of long-term care, that the present long-term care system or lack thereof simply worked enormous hardships on the elderly and their families.

But I hear you saying in response to one of Senator Danforth's questions that the numbers, when you get into long-term nursing home care, are just absolutely staggering. The question is what are we going to do? How are we going to afford long-term health care?

Mr. CALIFANO. I think we should set up a commission and look at the financing issues of long-term care, both in the nursing home and at home, because the numbers are staggering, and I think we have got to figure out a way to cover it, whether we are going to encourage people to save for it, whether we are going to find ways in which insurance companies can cover it and whether public funds should cover it.

We found a way over the years to cover health care and certainly acute health care costs in this country for a majority of our citizens, and I think we have got to find a way in some combination of public and private funds to cover nursing home care.

If our people really want it and really care about it,—and I think they do—if we provide some combination of incentives for them to save and turn our financial genius to this financing problem, it seems to me that it should be possible. Perhaps the other witnesses, Dr. Reinhardt and Dr. Altman, both being economists, will have some suggestions on this.

Senator SASSER. I think it is difficult to convince people to save in order to deal with this problem, because it is just human nature that one does not expect to get old until he or she actually becomes old and few people plan to be the victim of a long-term catastrophic illness that will require long-term care.

I was interested in your comments about reforming the health care delivery system, and as one who is in substantial agreement

with you but still bears the scars from your and our effort some years ago at hospital cost containment, I find myself wondering how we are going to have any substantial reform of our health care delivery system.

A BRUISING AND BLOODY REVOLUTION

Mr. Secretary, in your book, "America's Health Care Revolution," you point to changes in health care which will bring, in your words, "a bruising and bloody revolution," and by that I assume you are talking about trying to reform the health care delivery system that we now have in order to make it more efficient.

Mr. CALIFANO. I answer that. We are talking about one of the top three businesses in this country, we are talking about this year, I would guess, at least \$500 billion. That is a lot of money, and when you are fighting over that money and changing who gets it and under what circumstances, it is going to be bruising and bloody, as we both know.

Senator SASSER. You say, quoting from your book,

The American way of health has been voracious in its pursuit of more and more money, too often unrelated to better care.

You continue that

Unless we change its course, our health care system will break the bank, set off the nastiest generational and clinical conflict our nation has ever experienced, provide increasingly extravagant first-rate health care to fewer and fewer Americans and put life and death power in the hands of the government, which no free people can tolerate.

That is a pretty apocalyptic view of where we are moving here with our health care system. Is it really that bad, Mr. Secretary? If so, where do we go from here?

Mr. CALIFANO. Well, one, I think if we continue to increase as we have, we are in deep trouble. Let us take one example: This past year, as I indicated in my testimony, the health care costs rose 7.7 percent and the CPI went up 1.1 percent. If we have 4 or 5 percent inflation and we ever have a 7-percent increase in health care costs, seven times, you are talking about a 35-percent increase. You surely have something between 10 and 20 percent this year, the way we are headed.

Two, I do not want to see a situation, partly because of some of the questions that Senator Danforth raised, in which government is the only institution making the decisions as to who gets what care. I think that is really a terrifying situation. And to the extent we can, we should try and spread those decisions out among a whole variety of people.

The instant nationalization of the abortion issue made it more difficult to deal with it in a pluralistic society than would have been the case if that issue had percolated all over the country. So I do think we face the danger of that, and the point of the book, of course, is to try and get health care costs under control, to try and get more competition into the system, to try and get more variety into the system. I hope we can.

If we do not, if we just go the way we are going, we are going to have enormous cost and an even worse situation on our hands.

FOREIGN MEDICAL PLANS TO EMULATE

Senator SASSER. One final question. Does any other country come to mind with regard to having a health care delivery system that we might seek to emulate?

Mr. CALIFANO. I think most countries have evolved in their own way. There is nothing I would seek to emulate. I would seek to emulate pieces of some systems. Britain, for example, when they went to a system where the government owns all the hospitals and all the doctors and nurses by and large work for the government, that evolved out of World War II. It came right after World War II, when the Government was running all the hospitals and all the doctors and nurses were in the Armed Forces, so it was easy to do.

In Germany, it is an insurance-based system. They evolved out of the early social insurance plans. But even in those systems, you see an increasing proportion of the health care is being delivered in the private sector, up over 10 percent in Britain now. I think you can get, incidentally, much more thoughtful and informed answers on other world systems from Dr. Reinhardt, who was kind enough to brief me when I was Secretary and travel with me when we looked at European health care systems.

Senator Sasser (presiding). Thank you.

Senator Nickles?

SHOULD MEANS TESTING BE REQUIRED

Senator NICKLES. Just a brief comment. I share the goals that have been proposed but am concerned about the possibility of an explosion in the costs. Many in Congress are already talking about expanding the program substantially.

If we did have a significant expansion, possibly to nursing home care, prescriptions and other things, do you think there should be some type of means test for that expansion?

Mr. CALIFANO. Well, we have a means test now for nursing home care, because basically Medicaid is the only program that provides it.

I guess I think in time we probably should come under medicare the same sort of thing we have come to in social security, that at some point the income of the individual eligible for medicare would be sufficiently high so that that individual should be taxed on the employer part of the contribution and the accumulated part of the contribution that was not their own when they earned the benefits. At least to that extent, we should start collecting some revenue or treat it as income.

One way in which I think you can cut the cost of the catastrophic proposal would be to say that those people that would be eligible for acute catastrophic care would, if they chose, be permitted to go to hospices or have home health care and not only be eligible for the most expensive high-tech medicine at that end of the spectrum. I think that would help reduce costs some.

Senator NICKLES. But you are talking about a significant expansion and exposure as far as dollars are concerned. If a person were a multimillionaire, should they be required to pay for their coverage?

Mr. CALIFANO. I would have them at least taxed on the economic value that they have not been taxed on of the medicare benefits that they receive. Whether they should be knocked completely out of the medicare program raises all the issues related to the further acceleration of a two-tier health care system in this country, and I guess that would give me some concern. But I see no reason why we do not tax them as we now tax social security beneficiaries.

SHOULD PRIVATE SECTION HAVE ROLE

Senator NICKLES. Let me ask you one final question. I apologize for missing your statement. I am going to review it because I do have a great deal of interest in this. I happened to be an employer before coming to the Senate and we provided catastrophic health insurance for our employees at a minimal insurance fee, so I happen to have a bias towards the private sector solution. Do you think the private sector should have a significant role to play?

Mr. CALIFANO. I think, as I suggested in earlier testimony, Senator, I believe that we should have in this country a minimum health care law, the way we have a minimum wage law, and that employers should be required to provide a minimum package of health care benefits for the employee, including catastrophic care, however they want to provide it, and they should at least, whether through an HMO or directly, whether through insurance system, provide the lowest cost package they can find.

You would have to have protection for small businessmen in any such circumstances because——

SMALL BUSINESS NOT EXEMPT

Senator NICKLES. Would you exempt the small business from that requirement?

Mr. CALIFANO. No, I think I would try and create some mechanism to get them the same kinds of rates that the large employers can get. I think small businessmen pay about 40 percent more now. And I think I would phase it in gradually.

Senator NICKLES. Would you require that on a self-employed, a farmer or——

Mr. CALIFANO. I would provide—as part of this package, I would provide that self-employed get access to the same kind of group rates that the large corporations have.

Senator NICKLES. Thank you very much.

Senator SASSER. Thank you.

Thank you very much, Mr. Califano.

Mr. CALIFANO. Thank you, Senator.

Senator SASSER. We appreciate you appearing before this committee and testifying today.

Mr. CALIFANO. Thank you, sir.

Senator SASSER. Senator Chiles, I am advised, will return shortly.

Our next panel includes Mr. Stuart H. Altman, Ph.D., Dean of the Heller School at Brandeis University. Dr. Altman, welcome, and you will be joined by Dr. Uwe E. Reinhardt, James Madison Professor of Political Economy at Princeton.

Gentlemen, we welcome you here today and look forward to your testimony. Why do we not begin first with you, Dr. Altman.

STATEMENT OF DR. STUART H. ALTMAN, PH.D., DEAN, THE
HELLER SCHOOL, BRANDEIS UNIVERSITY, AND CHAIRMAN,
PROSPECTIVE PAYMENT ASSESSMENT COMMISSION

Dr. ALTMAN. Thank you, Mr. Chairman. It is indeed a pleasure for me to appear here before you in the Budget Committee this afternoon to discuss the possible changes in the Medicare Program including the addition of financial protection against catastrophic expenses.

I appear before you as a private citizen, although some of my remarks are derived from analyses which have been done by the staff of the Prospective Payment Assessment Commission of which I am its chairman. The staff has asked that I focus my remarks on the plan being developed by the administration to protect Medicare beneficiaries against the possible high out-of-pocket costs of acute care illness. This plan builds on the analysis of the recommendations of Secretary of Human Services Bowen and his report to the President in November 1986.

ADMINISTRATION PROPOSAL GOOD FIRST STEP

Let me say at the outset that I believe the Secretary's report is a first-class analysis of the issues surrounding the protection of all U.S. citizens against the high cost of medical illness. I also believe the plan outlined by the administration in its press release of February 12 is a good first step toward addressing these problems. But, Mr. Chairman, it is only a first step and should not be thought of as a broad based catastrophic insurance plan even for those covered under Medicare.

Nevertheless, it is an important first step and should be given careful consideration by your committee and the Congress. In my testimony I will suggest certain structural additions to that proposal which I believe would improve both the functioning of the Medicare Program itself and potentially reduce the cost of any new catastrophic expenses.

Many of your colleagues have talked about the cost of this plan and I would like to make some suggestions as I move along.

First let me say that the 28 percent of out-of-pocket expenses which Americans now pay for their health care translates into \$106 billion and included in these figures, as Secretary Califano has indicated, are 37 to 40 million Americans who really have no health insurance at all. It is hard to talk about catastrophic insurance for the country without recognizing the uninsured.

Also, as discussed in Secretary Bowen's report, of the \$106 billion, the largest dollar items are for items like drugs and medical equipment, for home health—and as the Secretary indicated—for nursing home care. It must be remembered that these items would not be covered under the administration's plan.

PROBLEMS WITH ADMINISTRATION PLAN

Nevertheless, as I suggested in my opening remarks, this plan is an important first step and I believe should go forward. Let me point out some problems though. Of the various potential out-of-pocket expense items, the largest in terms of the cost to the benefi-

ciaries—I am talking here about Medicare beneficiaries that would be covered under the plan—is the coinsurance for part B services.

Interestingly, the second largest component is the extra billing that part B providers ask the Medicare beneficiaries to pay if they do not accept assignment. Both of these are potentially huge dollar items to the elderly and potentially could lead to serious financial problems for them.

Now, I emphasize potentially, because I do not think we should go far along in any discussion without recognizing that most elderly—most people covered under Medicare—do have some form of supplemental insurance. It is estimated that that number is about 80 percent and their supplemental protection fall into one of four categories; either they are so poor that they qualify for Medicaid; they retired from a company that provided them with wraparound group coverage for retirees; they bought the typical Medigap private insurance; or they are covered under some form of comprehensive HMO plan which goes beyond the Medicare minimums.

MEDICARE PAYS COINSURANCE COSTS FOR SOME

I should also remind the committee that Medicare itself is really a form of supplemental insurer in that it will pay to providers of part A services those cost sharing amounts that are not paid for by Medicare beneficiaries. And at least until recently, it was my understanding, that Medicare made it clear to providers that they should not go out and really push Medicare beneficiaries to the wall to pay their coinsurance.

It is my understanding also that the inspector general of the Health and Human Services Department estimated that in 1983 Medicare paid \$150 million for these bad debts, which amounted to 4.1 percent of all the deductibles and coinsurance charged to Medicare. I have a table which is in my text—which I hope will be part of the record¹—which indicates that in regions IV and VI, our lowest income regions, that is where the percentage of Medicare bad debts is the highest.

Senator RIEGLE [presiding]. It will be made a part of the record.

Dr. ALTMAN. Thank you, sir. So we do see that Medicare itself is already a form of catastrophic insurance.

Now, as I suggested, one of the important limitations of the plan as outlined in the press release is that it does not cover the excess charges of part B providers, nor does it expressly prevent such charges. I think we have long passed the time where that should continue.

There was some justification in 1965 for allowing physicians to excess bill Medicare because we felt that if they didn't we might lose them as providers. I doubt if that would be a problem today, and therefore I believe any type of catastrophic coverage must have limitations which prevent this excess billing.

In the numbers that Secretary Bowen indicated in his report, 32 percent of all of the out-of-pocket payments for people that spent between \$2,000 and \$5,000 was for that one item. Failure to include

¹ See table 2, p. 169.

an end to such excess billing, I think, would make a mockery of any catastrophic insurance, even for the Medicare population.

Let me now focus on several issues involved in catastrophic insurance. I will restrict my remarks to issues related to the operation of the plan as outlined in the administration's press release. In so doing I will resist the temptation, much as I would love to do it, to provide the committee with a plan which I believe would be true catastrophic. As an academic I would love that exercise, but I fear, in spite of the discussion today, this is not the era for a true catastrophic plan, so I will focus on the administration's plan.

HEALTH CARE MODEL NEEDED

Senator RIEGLE. Dr. Altman, let me just stop you there. While I think you are probably right in giving us a more limited practical recommendation for this time frame, I think it would be very helpful for us to have, from health care professionals, a model of what would truly be a catastrophic health care plan for this country that would really do the job so that we might understand the dimensions of this. We need to start to think in terms of a long-term plan, or march in the direction of having that kind of a plan.

I would like to see what that might look like, and I, for one, would like to ask you to give us something along that line, if you would.

Dr. ALTMAN. I would be glad to, and I am sure my colleague, Dr. Reinhardt, who is still a professor, will probably include some of it in his testimony. I appreciate the opportunity to do that.

Senator RIEGLE. I do not mean today. I mean in due course.

Dr. ALTMAN. Well, thank you, but today I will be rather narrow and try to make a good plan just a little bit better. But I appreciate the opportunity to do that.

I have been around Washington long enough to know that the only way you get something passed is to have a long title next to the name.

Senator RIEGLE. And a positive title, a positive title helps too.

Dr. ALTMAN. Yes, absolutely. So I think the appropriate title for the administration plan is the Acute Care Catastrophic Supplemental Medicare Program, which, I think, is more in keeping with what the administration was trying to put forward.

While it is easy to dismiss the administration's plan as only dealing with the 25 to 30 percent of the potential out-of-pocket expenses of Medicare beneficiaries and for many just simply substituting for what they already have as supplemental coverage, I think to dismiss it would do a disservice to millions of our elderly and disabled who really can benefit from such protection. I think we must guard against the all too common tendency to have the "best" drive out the "good".

COMPONENTS OF A MODEL PLAN

My comments can be divided into five categories. First, I think we need to combine parts A and B in Medicare to make this plan work better. Second, as I indicated, we need to require mandatory assignment for physician services covered under Medicare. Third, I fear this plan will not work well unless it is mandatory and that

every Medicare beneficiary have catastrophic protection. Fourth, I think we need to work out a plan which would link existing private coverage into this Federal plan. And finally I think we need to require a "managed care program" for all high cost Medicare cases.

Let me briefly summarize these remarks. I testified recently before the Senate Finance Committee on the need to combine parts A and B. I would like to emphasize here even more strongly, Mr. Chairman, that any type of catastrophic plan must combine the cost sharing and benefits of parts A and B. We should not continue these as two separate programs.

You know, they do not even talk to each other. The people that run part A are in another building from part B and often are different carriers. If you are going to run a catastrophic plan that combines the cost sharing, you ought to combine the administration and you ought to combine the benefit package. I indicated this, and I have written in my testimony how I think we should do it, and, of course, I will give that for the record.

CONTINUED PAYMENT SYSTEM FOR OUTPATIENTS FEARED

I also fear a continued payment system for outpatient services and physician services which is more lenient than the payment system for hospital care. Now, I realize the medical community, particularly the physicians, will not like the word, lenient. But I watched, during the 1970's, what happened when the Federal Government decided it was going to place tight controls on routine hospital costs and leave ancillary costs alone.

The old balloon system really worked. That is, every hospital in this country overnight eliminated routine hospital care. We did not have any more routine hospital care. If a bed moved up and down, it was an ancillary service. If a straw bent, it was a medical procedure.

I already see some aspects of this behavior with the existing hospital pigment system. If we continue to tighten the DRG pigment system for inpatient care and allow outpatient care and physician services to be on a cost based, or even a fee schedule, we are going to move every piece of hospital equipment to the outpatient department.

I therefore believe it is critical that we combine A and B and we develop a control system or a payment system on both sides with similar incentives.

NEW REPORT ON PARTS A AND B MEDICARE

In a soon to be released Pro PAC report, we highlight the negative impact of continuing these two separate programs under medicare on beneficiaries' access to care and the amount beneficiaries have to pay out. We have talked at some length about the fact that the PPS DRG system does ask patients to leave the hospital sooner than they left before. And it is also true that occasionally they are sicker.

That does not mean they should not leave, but it means that they are going to need care when they leave the hospital. Before, that care was provided for free. Now, one of two things happen to them. If they are lucky, it is covered under part B and therefore

they face a new set of coinsurance and deductibles, or it is not covered at all.

It is no wonder that thousands of beneficiaries look to the Federal Government and say, "what have you done to us?" "Why did you create this DRG system?" Mr. Chairman, it is not the fault of the DRG system. The fault is that we have two separate payment systems and when you move from one to the other, you must pay more out-of-pocket. That needs to be eliminated.

Welcome, Mr. Chairman. As I mentioned before you came in, 32 percent of current out-of-pocket expenses for Medicare beneficiaries who pay between \$2000 and \$5000 are for the extra billings to physicians beyond what Medicare pays. If you are going to have catastrophic coverage, that system should be mandatory. I think Medicare should pay a decent rate. But, once it is established—just like my insurance policy is—that is the payment. If I have to pay a 20 percent coinsurance, fine. But I do not pay 20 percent and then maybe another 50 percent.

MAKE PART B MANDATORY

One of the areas that I spent a lot of time thinking about—and I am not sure I am right, but at least I wanted to call it to your attention—the current proposal is to make catastrophic insurance voluntary and to add to the part B premium. It sounds right. I have a problem, though. Part A is mandatory. A lot of the catastrophic benefits would be part A benefits.

So that means you are going to wind up with a part A, mandatory program and part A voluntary program. Also you will have part B, mandatory and voluntary programs. Medicare is already complicated enough. I fear that we would be unduly complicating it if we make catastrophic coverage voluntary.

Eighty percent of the elderly are covered by some form of supplemental coverage. Twenty percent are not. It is just possible we could wind up with the same 20 percent not signing up. We could go through this whole debate, pass legislation, and then wind up not helping the people for whom we wrote the legislation. So, while I appreciate the value of making everything voluntary, I have a feeling if we are going to make this thing work it needs to be mandatory.

And there are ways to do that. I discuss this issue in detail in my written testimony. You can either do it through a payroll tax. You can do it through a premium tied to social security payments. There are a variety of ways.

LINKAGE TO EXISTING COVERAGE

The fourth area that I wish to discuss is the linkage to existing supplemental coverage. As I indicated, there are a variety of private coverages that are now out there. Some of them are not bad. Some of them do a good job. What is more, some of them do a better job than a government program.

I think there is value in having private coverage compete against a government plan to see who runs this coverage more efficiently. We are going to allow HMO's to opt out, we have to do that. If we are going to allow HMO coverage, you cannot say to an HMO, you

have to go into the Government plan if spending exceeds a certain amount. You cannot have that. You have to give them the option of opting out.

I would suggest that you give General Motors and Joe Califano's Chrysler a chance to run their own plan. I surely would not give them an opt out provision where the Government picks up all the coverage they are now paying. I do not see how that would work.

So, I think we have to work out a mechanism that would allow a linkage system where if an individual is covered by a governmentally approved plan an individual would not have to be covered under the Government plan. Everyone would be covered. They would just have a choice.

HIGH COST OF CATASTROPHIC COVERAGE

Finally, perhaps most importantly, several of your colleagues, Mr. Chairman, have mentioned the potential high cost of this catastrophic coverage, I am of two minds on this issue. On the one hand, we are already paying for most of these catastrophic expenses. Most Americans are already covered. As I said, 80 percent of the elderly already have supplemental insurance. The number of beneficiaries that even use coinsurance is only a few percentage points of the total.

Chairman CHILES [presiding]. But you would agree though, would you not, Doctor, that even though most are already covered and we are already paying them, if you ever got to the situation where Uncle Sam was paying everything, what we have now would still be just a drop in the bucket, would it not?

Dr. ALTMAN. Well, I do not know if it is a drop in the bucket. My sense is that we are already paying too much and we already have catastrophic protection.

Chairman CHILES. Well, let's say the bucket would not hold the rest of what you would have.

PRIVATEES MOVING TO MANAGED CARE

Dr. ALTMAN. Absolutely. That is where I come to. What I suggest we need, regardless of whether we have catastrophic coverage, but we need it even more with catastrophic coverage, is a tightly controlled "managed care" system. That is, if you look at private coverage today—forget about government—they are increasingly moving to mandatory managed care for the high cost cases.

You cannot buy private insurance for many employers today without having to go through treatment screens. They are not PRO screens. They say, before you go into the hospital you have to pass this screen. The insurance company will authorize a certain number of days for a particular diagnosis, if you need to exceed those days you have to get approval. And most importantly, if certain computer profiles click, managed care providers come in and they say let's look at the kind of care you are receiving. Let's make sure that you are not getting duplicative tests, duplicative hospitalization, et cetera.

It is called managed care. It is not some gigantic bureaucracy. I think there is ample evidence today that we could save significant sums from 20 to 25 percent of those high cost cases and it might

work out to 5 to 10 percent of the total bill. Again, I go into detail in my testimony. It is possible, Mr. Chairman, that we could end up by introducing managed care, if we do it right, of saving more money with the existing program than it is going to cost for catastrophic coverage.

Let me now summarize, Mr. Chairman. I am here this afternoon to suggest that your committee give serious consideration to the administration's Acute Care Catastrophic Supplemental Medicare Protection Plan. I recognize that it does not address many of the major out-of-pocket spending concerns of our elderly population, nor does it focus on the growing problems of millions of uninsured and under-insured persons in this country.

Nevertheless, in this era of fiscal problems it is an important step forward in protecting all Americans against the potential ravaging effects of the high cost of medical illness. In recommending this plan, I would also suggest five areas where additions to the structure of the plan would improve the operation and the protection of the entire Medicare Program.

These changes, in my mind, do not add to the cost of the plan and could, in fact, substantially reduce both the premium cost of the plan and the uncovered expenses that Medicare beneficiaries would be liable for.

In summary, these additions to the plan are: [1] combine the benefits and administration of parts A and B under Medicare; [2] require all physicians to accept Medicare rates under part B plus co-insurance as payment in full; [3] to simplify and make Medicare more manageable require that catastrophic protection be a mandatory feature of the program; [4] permit individuals with qualified private coverage to opt out of the federal plan; and [5] establish a monitoring system for all Medicare cases and a managed care program for those that meet certain criteria.

Thank you Mr. Chairman for the privilege of appearing before you this afternoon.

Chairman CHILES. Thank you very much, Dr. Altman.

[The prepared statement of Dr. Altman follows:]

TESTIMONY OF STUART H. ALTMAN, PH.D., DEAN, THE HELLER SCHOOL, BRANDEIS UNIVERSITY, AND CHAIRMAN, PROSPECTIVE PAYMENT ASSESSMENT COMMISSION, FEBRUARY 25, 1987

ACUTE CARE CATASTROPHIC SUPPLEMENTAL MEDICARE PROTECTION PLAN

Mr. Chairman, it is indeed a pleasure to appear before you and the Budget Committee this afternoon to discuss possible changes in the Medicare program including the addition of financial protection against acute care catastrophic expenses. My name is Stuart H. Altman. I am the Dean of the Heller School, a graduate School for Social Policy training and research, at Brandeis University. I appear before you as a private citizen, although some of my testimony is derived from analysis done by the staff of the Prospective Payment Assessment Commission of which I am the Chairman. As you know, the Prospective Payment Assessment Commission was created by the Congress in 1983 to advise it and the administration on possible changes and adjustments in the Medicare hospital prospective payment system.

Your staff has asked that I focus my remarks on the plan being developed by the Administration to protect Medicare beneficiaries against the possible high out-of-pocket costs of acute care illness. This plan builds on the analysis and recommendations of the Secretary of Human Services report on November 1986 on Catastrophic Illness Expenses. Let me say at the outset that I believe the Secretary's report is a first class analysis of the issues surrounding protecting all U.S. citizens against the high cost of medical illness, including the growing problem of unprotected long-term

care expenses. I also believe that the plan outlined by the Administration in its press release of February 12, 1987 is a good first step toward addressing these problems. But it is only a first step and should not be thought of as a broad based catastrophic insurance plan even for those covered under Medicare.

Nevertheless it is an important first step and should be given careful consideration by your committee and the Congress. In my testimony I will suggest certain structural additions to the proposal which I believe will improve the functioning of the Medicare program and potentially reduce the cost of any new catastrophic coverage.

NATURE OF THE PROBLEM

During the last 50 years the percentage of medical care expenses paid by patient at the time of use has fallen from 88 percent in 1927 to 28 in 1985. This is an impressive accomplishment, but it is not a situation we in the U.S. can feel satisfied with. The 28 percent of out-of-pocket expenses translates into \$106 billion and included within these figures are an estimated 37 million Americans who were required to pay all their medical expenses because they had no health insurance protection, public or private.

It is interesting to focus for a minute on the composition of the \$106 billion and what proportion of total expenses in each category it represents. By doing so I think we can appreciate more fully what a true catastrophic plan would cover. As discussed in Secretary Bowen's report and shown below, of the \$106 billion of out-of-pocket expenses, the largest dollar items are for drugs and medical equipment, followed by the "Other" category which includes home health care. Also high on the list is the \$17 billion for Nursing Home Care. It must be remembered that only limited amounts in these three categories would be covered under the Administrations plan.

COMPOSITION OF OUT-OF-POCKET EXPENSES ¹ 1985

[In billions of dollars]

Medical sector	Amount	Proportion of total (percent)	Percentage of sector
Physician Services.....	22	21	26
Drugs & Durable Eq.....	27	25	76
Hospital Care.....	16	15	10
Nursing Home.....	18	17	51
Other.....	23	22	?
Total.....	106	100	

¹ Table derived from information provided in, Catastrophic Illness Expenses. Report to the President, Department of Health and Human Services, November 1986, pg. 13.

With the above in mind, I would now like to discuss the population that would be covered under the Administration plan, the elderly and disabled protected under Medicare. Out-of-pocket medical expenditures for this group equaled \$30.2 billion (excluding premiums paid for Medigap insurance) in 1984. For the elderly this represented about 15% of their income. Because of the relatively good coverage for hospital care under Medicare and very limited coverage for nursing home service, the \$30 billion was disproportionately in the latter category, \$12.6 billion or 41.6%. Physician services was \$6.5 billion and hospital care only \$1.7 billion. The Administration's plan would focus primarily on the Physician and Hospital sectors.

OUTLINE OF THE PLAN

Services Covered

The Administration's plan as outlined in the February 12, 1987 press release would focus on limiting out-of-pocket expenses for the cost sharing components of the current Medicare program to \$2000. These cost sharing components include:

PART A

(Hospital & Skilled Nursing Home Expenses)

1. Deductible—Average Cost of one day of Medicare Hospital expenses ¹ (Adjusted).
2. Co-insurance.—61st to 90th day of care within same "spell of illness."— $\frac{1}{4}$ of hospital deductible.
 - 91 to 150 days-lifetime reserve— $\frac{1}{2}$ of hospital deductible.
 - 100 days nursing home care ²— $\frac{1}{8}$ of hospital deductible after first 20 days.
3. No coverage.—after exhausting 60 days of life time reserves for hospital care and 100 days of post-hospital skilled nursing home care.³

PART B

(Physician and Other Outpatient Services)

1. Initial deductible set by law.—\$75 in 1986.
2. Twenty percent (20%) of cost of covered Medicare approved expenses.
3. All of billed charges by physician in excess of Medicare covered rates if physician does not accept Medicare rates.

Of these various potential out-of-pocket expense items, the largest in terms of cost to the beneficiary is the 20% co-insurance for physician and outpatient care under Part B. As shown in Appendix Table 1, for all Medicare beneficiaries this equals 35.5 percent of their potential expenses. Interesting, the second largest expense category is the charges above approved rates for Part B services. I have emphasized potential because much of these expenses not paid by Medicare are covered by one of four types of supplemental coverage used by the overwhelming majority (estimated to be about 80%) of Medicare beneficiaries.

Types of Supplemental Medicare Coverage

1. Medicaid.
2. Employer Paid group coverage for retirees.
3. Private individual Medigap insurance.
4. Comprehensive coverage under HMO plan.

I should also remind the Committee that Medicare itself is already a form of supplemental insurer in that it will pay to providers of Part A services those cost sharing amounts not paid by or for Medicare beneficiaries. As shown in Appendix Table 2 the HHS Inspector General's office estimates that Medicare paid \$150 million in bad debt claims in 1983 equivalent to 4.1% of the deductible and coinsurance amounts charged to Medicare beneficiaries that year. Table 2 also shows that this percentage was the highest in Regions IV and VI (7.3% & 6.9%), which are the regions with social security benefit amounts well below the national average.

One important limitation of the plan as outlined in the press release is that it does not cover the excess charges of Part B providers nor does it expressly prevent such charges. As indicated above, these charges amounted to 22% of total beneficiary liability and for those with out-of-pocket expenses of between \$2000 and \$5000 it amounted to 32% of their liability. Even more striking is that these are the out-of-pocket expenses least likely to be covered under many of the private individual Medigap policies. (For the most part they will be covered under the other 3 types of supplemental coverage.)

Locus of Coverage and Financing

The Administration's plan calls for all acute care catastrophic expenses as defined above to be paid for by Medicare and financed through an increase in the Part B premium. Coverage in the plan would be voluntary. The Administration estimates that if put in place next year this plan would require a premium of \$59 per year or a \$4.90 per month increase in the Part B premium amount.

¹ The proposed plan would limit to two the number of deductible amounts per year included in the \$2000 limit paid by the beneficiary. All others would be paid by the plan.

² Part A also covers unlimited days of skilled home health care for homebound patients needing these services on an intermittent basis and two 90-day and one 30-day period of hospice care.

³ Coverage Restrictions will be eliminated in new plan.

DISCUSSION OF PLAN

In discussing the Administration's proposal, Mr. Chairman, I will restrict my remarks to issues related to the operation of the plan as outlined in the February 12th press release. In so doing I will resist the temptation to provide the committee with a plan which I believe would be true catastrophic coverage. To differentiate the Administration's plan from total catastrophic protection, I will call it Acute Care Catastrophic Supplemental Medicare Protection. While its easy for some to dismiss this type of protection as only dealing with 25 to 30 percent of the potential out-of-pocket expenses of Medicare beneficiaries and for many simply substituting one form of protection for another, I believe this would do a major disservice to millions of our elderly and disabled who really can benefit from such protection. We must guard against the all too common tendency to have the best drive out the good.

My comments can be divided into five categories:

1. Need to combine Parts A & B of Medicare;
2. Require Mandatory Assignment for Physician Services;
3. Voluntary versus Mandatory participation in the plan;
4. Linkage of Existing coverage into federal plan; and
5. Require a Managed Care program for all high cost Medicare cases.

COMBINE PARTS A & B

Recently I testified before the Health Subcommittee of the Senate Finance Committee on the need to unify the Medicare benefit and payment systems. The justification for such a change is even stronger when you consider putting in place a cap on the combined cost-sharing amounts of the two separate and often uncoordinated parts of Medicare. As I indicated in the Finance Committee testimony, it is imperative that we also develop a new approach for paying for physician services and outpatient care under Medicare. Such an approach need not use the same mechanisms as created to pay for hospital services, but it is imperative we end the existing more lenient approach of paying for outpatient hospital care and physician services, while continuing to tighten the hospital payment mechanism. I'm afraid, we learned the hard way in the 1970's what happens when the federal government tries to more tightly control just part of the health system—costs just escalate on the less controlled side. (Routine hospital cost limits under Section 223, Title 18 of Social Security Act)

In 1965, when Medicare was enacted, the hospital and the physicians office were the major sites for the delivery of care. At that time, dividing Medicare into separate parts for hospital care and physician services was workable. Since then, new models of care and new methods of financing have emerged. Increasingly, the Medicare program has experienced great difficulty in defining benefits and payment for treatment in these new sites of care such as freestanding diagnostic and surgical facilities, hospice centers and other acute and post acute care facilities. In a soon to be released Pro PAC report, we highlight the negative impact of continuing two separate programs under Medicare on beneficiary access to care and the amount beneficiaries payout-of-pocket. For example, Medicare beneficiaries are now being asked to leave the hospital earlier and somewhat sicker than they were before PPS. Often a patient needs some form of medical care which previously was provided free in a hospital. If such a service is covered under Part B an additional coinsurance is now required and for some of the services the restrictions in part B require the patient to pay for all of the care. These extra payments do add up and could become a barrier to having patients move to what is a more efficient locus of care.

Another important reason to combine the administration of the two parts of Medicare is to better understand and monitor the total care provided to high cost cases. As I will explain in a later section it is important that such monitoring and ultimate managing of such cases take place or these new catastrophic acute care benefits could cost much more that is currently being estimated.

MANDATORY ASSIGNMENT FOR PHYSICIAN SERVICES

This is not the appropriate place to go into detail about why the current approach to permitting physicians to bill patients in excess of the Medicare rates should be changed and how this change should be implemented. It is worth saying, however, that failing to focus on this issue will leave millions of Medicare beneficiaries still paying substantial sums for acute care beyond the co-payment limits set by the Administration as catastrophic payment limits. Such extra billing could increase dramatically if a plan is passed to further limit what Medicare will pay for Part B services and the freedom to extra bill is retained. I fear that keeping such a system in

place would be viewed by some as making a mockery of the contention that passage of the plan under study will truly cap out-of-pocket acute care expenses.

VOLUNTARY VERSUS MANDATORY PARTICIPATION

The heart of the current Medicare program is that all Americans on reaching age 65 and having fulfilled a minimum payroll tax payment requirement automatically become eligible for Part A benefits. Many of the expenses that would now be covered under the supplemental acute care catastrophic plan are interwoven within the Part A benefit package. To make coverage for these benefits voluntary would, I fear, further complicate an already very complicated Medicare system. We would need to separate Part A services into two further categories; a mandatory basic package and a voluntary catastrophic plan. For Part B coverage the issue is simpler, since such coverage is currently voluntary. Although here too a beneficiary could agree to sign up for basic Part B services, but go without the catastrophic protection plan.

I'm further concerned that just those population groups that now fall through the cracks and have no supplemental Medigap insurance will be those who either don't or forget to sign up for this new protection. It would indeed be sad to go through all the effort of passing a major new addition to the Medicare program to find that only those that now have private or public supplemental insurance sign up for catastrophic coverage. At a minimum, we should require that anyone that accepts Part B voluntary coverage must accept the acute care catastrophic plan. Even so I would recommend that you consider seriously making catastrophic coverage mandatory and either folding the payment amount into the payroll tax or requiring that the premium be subtracted from a beneficiary's social security payment.

LINKAGE OF EXISTING COVERAGE

Many Medicare beneficiaries are now covered for supplemental expenses by either Medicaid, a previous employer's group plan or a qualified HMO plan. Some of these private Medigap plans or even a few state plans maybe more efficient than Medicare or are a better manager of high cost cases and therefore could and do provide supplemental acute care catastrophic protection for less than it would cost under a Medicare plan. There also could be other reasons why a private plan may wish to keep all its coverage under its own control. Surely this would be true for a capitated HMO plan. I believe we could lose more than we would gain by requiring all supplemental acute care catastrophic coverage to be included under a federally administered system. Therefore, Mr. Chairman, I would recommend that the Congress consider allowing employer sponsored plans or qualified HMO's to get out from under the mandatory inclusion provision if they can demonstrate to an appropriate agency that they provide an acceptable level of supplemental Medicare acute care catastrophic coverage. You may also decide to allow a select number of private individual coverage plans to offer competitive supplemental insurance. I do not think this option would be used by many plans or individuals and hence should not be a serious problem for the Medicare plan in terms of adverse selection.

MANAGED CARE FOR HIGH COST CASES

Some have criticized any catastrophic coverage plan as potentially wasteful in that it would simply add to the expense of "high tech" medicine or prolong treatment for those patients who have past the point where medical intervention can be of any help. While there is the potential for such spending, for the most part we have long past the point where added coverage would provide such an incentive. As shown above, most Medicare beneficiaries already have supplemental coverage and for those that don't Medicare stands ready to pay for many of their bad debts. With respect to enrollees who previously exhausted their benefits and now will have such bills paid, the numbers are really very small. Very few beneficiaries are even close to the edge. A HCFA study revealed that less than 2.0 percent of beneficiaries in 1984 have ever used any lifetime reserve days and only 120,000 of the 30 million Medicare enrollees used all 60 lifetime reserve days.

The real concern is not that we could unleash substantial unneeded spending, but rather that such spending already exists and exists in large amounts. The HHS catastrophic illness report indicates that almost 3 million Medicare beneficiaries had cost sharing expenses in 1983 of \$1,000 or more. Most of these are patients whose medical expenses far exceeded \$5,000. For many the figure is closer to \$10,000 and more. There is a growing body of evidence which suggest that for a significant

number of these high cost illness cases, 10 to 20 percent of the expenditures could be eliminated with an effective monitoring and managed care system.

For the most part such managed care programs are only in operation for private insurance patients and only for patients under age 65. Nevertheless, the success of some of these programs have been impressive. Reductions in hospital days of 20 to 25 percent have been recorded with the help of second surgical opinions, pre-hospital certification and the channeling of high cost patients to more appropriate and more cost effective providers. Many of these savings do require the availability of appropriate home health services or other forms of alternatives to institutional care. Combining the benefits and cost sharing structures of Medicare Parts A & B would facilitate such availability.

The process of high cost case management consists of identifying and referring potential high cost cases, screening and assessment of referred cases for appropriateness of case management and implementation of the case management plan. Therefore a monitoring system needs to be put in place for all Medicare cases, but the case management program should only focus on those patients where there is a good possibility that it can be helpful.

It is just possible that the addition of acute care catastrophic coverage combined with effective monitoring and managed care systems could end up saving Medicare more than it costs to add the new coverage. While this may not be possible, what is likely is that without such safeguards we will end up spending more than currently projected. Unlimited coverage even for a small percentage of Medicare beneficiaries could add a major new medical care spending push. I would hope that this possibility would not stop you from considering such protection, but I would also hope that it does force a consideration of including some effective mechanisms for managing the care of high cost patients.

SUMMARY

Mr. Chairman I have come here this afternoon to recommend that you seriously consider supporting the Administration's Acute Care Catastrophic Supplemental Medicare Protection plan. I recognize that it does not address many of the major out-of-pocket-spending concerns of our elderly population, nor does it focus on the growing problem of millions of uninsured and under-insured persons in this country. Nevertheless, in this era of fiscal problems it is an important step forward in protecting all Americans against the potential ravaging effects of the high cost of medical illness.

In recommending support for this plan, I would also suggest five areas where additions to the structure of the plan would improve the operation and protection of the entire Medicare program. These changes do not add to the cost of the plan and could, in fact, substantially reduce both the premium cost of the plan and the uncovered expenses that Medicare beneficiaries would be liable for.

In summary these additions to the plan are:

1. Combine the benefits and administration of Parts A and B of Medicare;
2. Require all physicians to accept Medicare rates under Part B plus co-insurance amounts as payment in full;
3. To simplify and make Medicare more manageable require that catastrophic protection be a mandatory feature of the program;
4. Permit individuals with qualified private coverage to opt out of the federal plan;
5. Establish a monitoring system for all Medicare cases and a Managed Care program for those that meet certain criteria.

Thank you, Mr. Chairman, for the privilege to appear before you this afternoon.

APPENDIX

APPENDIX I

TABLE 1.—SOURCES OF NET BENEFICIARY LIABILITIES UNDER MEDICARE, 1983

[In percent]

Average per capita liability	Part A			Part B			Total
	Hospital deductible	Hospital coinsurance	SNF coinsurance	Deductible	Coinsurance	Charges above approved rate	
\$0	—	—	—	—	—	—	100.0
\$1 to 999	25.5	0.1	0.1	24.7	33.0	16.8	100.0
\$1,000 to 1,999	27.3	0.9	0.8	5.5	40.7	24.8	100.0
\$2,000 to 4,999	14.6	6.2	5.7	2.6	38.5	32.4	100.0
\$5,000 and over	4.5	37.9	4.7	1.0	29.9	21.9	100.0
Total	21.7	4.6	1.7	14.3	35.5	22.2	100.0

Source: HCFA Office of the Actuary

Note.—The table represents the sources of beneficiary liabilities underlying Table 3.1. Beneficiary liabilities are net of Medicare payments only. They are further reduced to some extent by payments under Medigap policies.

TABLE 2.—SCHEDULE OF MEDICARE HOSPITAL BAD DEBTS 1983

[In millions of dollars]

Region	Number of hospitals	Deductible and coinsurance	Bad debts	Percentage of bad debts
I	265	\$185	\$3	1.6
II	389	386	14	3.6
III	513	431	15	3.5
IV	1065	559	41	7.3
V	1076	644	18	2.8
VI	894	334	23	6.9
VII	538	204	5	2.5
VIII	303	87	3	3.4
IX	583	348	8	2.3
X	245	86	3	3.5
Total for hospitals with bad debt statistics ¹	5,871	3,264	133	4.1
Estimate for hospitals without bad debt statistics ²	729	405	17	4.1
Totals	6,600	3,669	150	4.1

¹ The latest available bad debt statistics were for 1983. HCFA had information available for 5871 of the approximately 6600 Medicare hospitals.

² We applied the average bad debt amount for the 5871 hospitals to the remaining 729 hospitals for which bad debt statistics were not available to obtain an estimate of about \$150 million for bad debts in 1983.

Chairman CHILES. Dr. Reinhardt.

**STATEMENT OF DR. UWE E. REINHARDT, PH.D., JAMES MADISON
PROFESSOR OF POLITICAL ECONOMY, PRINCETON UNIVERSITY**

Dr. REINHARDT. I would like to thank you, Mr. Chairman, for granting me the privilege of testifying before your committee at this important hearing. This hearing addresses an issue that is fundamental to any civilized society, namely, the express desire of all civilized peoples to protect one another from undue financial hardship consequent upon the incident of illness. All modern nations seek to accomplish that goal. With very few exceptions, all industrially advanced societies have long ago achieved that goal. And as I will mention, we are one of the few who have not.

I have a statement that I hope will be entered into the public record.

Chairman CHILES. Your statement in full will be placed in the record.¹

Dr. REINHARDT. Many of the points in the statement, in fact, coincide with Dr. Altman's recommendation, which the record should show is a historic first; two economists who actually agree on something.

LOOK AT SOCIAL POLICY OF OTHER COUNTRIES

Now, there are four major points in my statement. The first one is the following. As a person who was born in West Germany and who lived in Canada I feel compelled to point out a paradox. And that is, Americans never hesitate to label themselves the most generous people on earth. The President has said that on numerous occasions and it is generally echoed among the people.

Secondly, we never hesitate for all the world to hear that ours is the best health care system in the world. Now, if that is so, it must surely come as an embarrassing shock to the American people to have the Secretary of Health and Human Services openly report that, "many Americans run the risk of financial ruin when catastrophic illness strikes."

Or to hear the President of these United States state as he did on February 12, "for too long, many of our senior citizens have been faced with making an intolerable choice—a choice between bankruptcy or death."

Now, that may be a trifle dramatic, but the thrust of this statement is supported by the Secretary's numbers. And I have to report I could not imagine the Prime Minister of Canada making such a statement. He would be mortified if he did. But, of course, he does not have to, because this problem does not exist in that form in Canada. Nor are there ever any conferences on indigent care, because the problem, again, does not exist. As I mentioned, we are one of the few nations who have not put this particular problem to bed.

I mention that simply because it is helpful occasionally to think of other nations. We regularly go to Japan to learn from them how they manufacture, where they clearly lead us. Well, maybe we ought to sometimes look beyond our borders to see how social policy is made elsewhere. We do not have to import their ethics and policy, but still there is something to be learned. Because it is puzzling that these problems would just flabbergast Canadians.

So that is the first point in my statement.

THE FINANCIAL UNCERTAINTY OF ILLNESS

The second point starts on page four of my prepared statement. Although this is a hearing on medicare, it is important to point out that the problem addressed by Secretary Bowen's proposal—now the administration's proposal—actually addresses only one facet of a much larger problem, and in my view, not even the most important one. As Dr. Altman said, in many ways we have already muddled through toward a solution there, except for the cases, 700,000 aged who have—

¹ See p. 176.

Chairman CHILES. Now, that is interesting, because we may have muddled through the solution. I do not doubt what you say, but you seem to have two things in the countryside. One is, perhaps, truth of fact and the other is perceived fact.

Perceived fact in my world becomes fact. If you go to any meeting I go to in my State of Florida, the number one problem that I hear people say is the perceived fear of major illness that will wipe them out, or put them into poverty.

I suspect that is why Dr. Bowen is talking about that. That is why the Congress is talking about it. Because in the countryside, basically, with seniors, it is the fear of that acute illness that preys on them all the time.

Dr. REINHARDT. I think that is a very important point to make, and on page three of my testimony I say, in fact, quite aside from the actual out-of-pocket expenditure an aged person may experience, millions of our aged are left to wonder just what their exposure may be. Even if in the end the year passes without an intolerable bill, they have spent the year sweating.

If I were to announce to a thousand students at Princeton, one of you will be taken and publicly spanked, they would all have a wonderful day, I am sure, and that is what we put the aged through, the uncertainty.

And I think that is certainly true. But there are other facets of this problem, and that is what Dr. Altman already alluded to, and I stress in the second section of my paper, there are 30 to 40 million uninsured and an additional under-insured young Americans who are exposed to far more risks in that respect.

Medicare is being dismantled from two fronts. Number one, if you look over the last 5 years, that budget has not gone up nearly as fast as Medicare. And secondly, the aged have been moving heavily into that budget. Over half of it now goes to the aged.

I think I just saw some numbers that eligibility, in 1975 71 percent of the officially poor were eligible. Now it is 47 percent. So we are dismantling this program. And I bring it up here for the simple point that if it were proposed to have some budget neutral maneuver that would implicitly load even more of the chronic care of the aged onto the Medicaid budget—which the people out there perceive to be for the young poor—I think that would write a mortgage for this nation that my children would have to pay.

They would have to pay it with money and they might have to pay it with their bodies, because nothing so alienates a human being as not being taken care of by their society when they are sick. I think that is the most dangerous thing that we can do, the neglect of the health of the young in America. And so therefore, these two facets are linked; Medicaid, the health care for the uninsured poor, young, and for the aged. And they are linked, and I think if you want to fuse, we ought to start fusing there as well.

CATASTROPHIC COVERAGE FOR THE AGED

In my third part of my paper I focus on Secretary Bowen's plan. I list there, on page 6, some criteria that one might put for a Medicare program—on page 7 of the paper.

First of all, out-of-pocket burden should be tolerable. The second, there should be easy and dignified access to mainstream medicine. That is a criterion that we have so far pursued.

Third—here comes your point—there should be a reduction of uncertainty. Uncertainty itself, for the aged, is an unhealthy state of affair. Fourth, the administrative process surrounding the choice of insurance coverage and the processing of claims should be simplified. The aged are not the kinds of people who enjoy wallowing in a paper war—in fact, I think no one does—but they, in particular. And fifth, the program should be perceived as equitable, not only by the aged, but also by the taxpayer who pays for this.

Now, if you take those as criteria and grade Medicare, Medicare would get an A only on the second, in that it has given the aged mainstream medicine with relatively easy access. I have given them an A for that, maybe even an A plus. But I think none of the other criteria I would give it more than a B minus, even by today's inflated grading standards.

That is the way Medicare now is. Now, if we then say, supposing we fuse the Secretary's proposal, if it were implemented, would the grades improve? And the answer is yes. It would be a significant although modest step in the right direction so that you would give Medicare higher grades, and therefore I would endorse doing at least that much.

But—as Dr. Altman has already said—it has its shortcomings. One is an out-of-pocket risk exposure of \$2,000 is enormous for some 38 percent of the aged who are in households with less than \$10,000. So that really is not catastrophic coverage as such. It limits the problem somewhat. That is the first problem that I see.

It is equitable vis-a-vis the young because it purports not to tax them. It is not equitable within the aged because the well-to-do aged could certainly suffer a higher exposure and the poor aged should be far less exposed.

Now, the question is, in fact, will it, however, be self-financing? Will \$4.92 actually pay for it. And here, at the bottom of page 9, I remind you, I have in some earlier papers argued that it is sometimes useful to visualize the health care sector irreverently as a giant dinner table seating guests otherwise known as health-care providers who go there in search of fiscal nourishment known to us as health-care expenditures, and to them as health-care revenues. A question, I think, we all have on our minds is this, whether this plan might not be perceived by the guests as newly and richly laden place settings that would draw hungry diners to a hitherto shunned corner of the table.

And I think we all have talked about it. You have alluded to it. And it is precisely because of that possibility that I cannot but whole heartedly endorse Dr. Altman's suggestion that we must couple this with managed care. It is not formally written into the Bowen proposal, but without it you really opening another part of the Treasury to the providers. With managed care I think it is manageable and should be affordable. In fact, we could afford more.

There is nothing in this proposal to deal with the long-term chronic care of the now aged, but I would not fault them for it. I am hard-put myself to figure out what one might recommend.

Once, were you to cover it, many, many people who are now taken care of by their children would be loaded on to the government.

The moral hazard, as it is technically called, in this area is enormous, and there is an area where even the Canadians—my rule always says, if it can be done, they have done it—but they have not solved this problem either. No nation I know of has really satisfactorily come to grips with this problem. But we must, of course, work on it.

FAMILY HELP FOR THEIR CHRONICALLY ILL AGED

Chairman CHILES. What do you think about us offering further inducement to families that decided they would take care of their own aged? We need to go in this direction with tax incentives and tax breaks and other ways of encouraging this.

Dr. REINHARDT. I personally would favor that approach, although Americans are tired of having the tax code used in this way. That is what tax reform was about.

Chairman CHILES. Well, we just cleaned up part of the tax code. We can go clutter it up a little bit now.

Dr. REINHARDT. Milton Friedman suggested that is what indeed it was all about. But, I could imagine that this would be a productive step. And certainly, more cautious than opening this particular area for a kind of patient dumping from the home into the nursing home that could actually be destructive of families too.

But I have nothing really imaginative to offer either, and I want to admit that. This is a serious problem and that is why the Bowen proposal falls short on this one. The idea to make young people save more is one that I think we absolutely have to deal with.

This country has the lowest savings ratio in the industrialized world. We have been able to borrow from the foreigners for the last 4 years, but that pipe will dry up and then America will be asked to finance itself. And we will have to get these savings, and here is one way to do that.

LONG RUN MEDICARE REFORM

The fourth point I make is a more thorough reform in the United States for Medicare. It has to begin by looking at some axioms that we held, or some notions we held axiomatic about Medicare that maybe have to be reconsidered. I list them on page 12.

First of all, the theory that a program to help America's poor will always be under-funded unless all the classes are folded into it—which is the liberal dogma—I think we need to reexamine that. I personally believe that is a false hypothesis, because as I look at Medicare it is actually very stingy and quite regressive.

And Medicaid, which is a program for the poor, is quite generous in its benefits. Maybe if the American people were told what you are asked to finance is only for the poor they might be more generous than if they sense every time I want to do something for one poor American I have got to take two or three upper middle class Americans and feed them along.

And I think it is devastating to the poor, this idea. So I disagree totally with liberal commentators—I think Bob Ball is one of

them—who argue that we must fold everyone into one program or it will collapse. That is one.

The second is that you can finance these income maintenance and medical care programs for the aged through inter-generational transfers. That will not work when generations fluctuate as much as they do. One has to train people to look after themselves. And finally, that the aged themselves cannot contribute more toward Medicare.

I would also recommend fusing part A and part B for exactly the same reasons. We, in fact, testified before that Senate committee together. I think, for the combined part A and B which might have some coverage—maybe optional for chronic care—one might charge the aged a premium that varies as a function of income, as many proposals have put forth, particular Karen Davis and Diane Rowland's.

The aged sit on 700 billion dollars' worth of real estate. Maybe the Government should help the aged to make that liquid through reverse mortgages, Government supervised, and perhaps Government guaranteed. But here are \$700 billion that belong to the aged that they cannot use because they are illiquid and we could help them make that liquid to contribute more to this premium.

And finally—and as I put table 3 in after page 15, the notion that the aged are particularly poverty stricken as a group is no longer true in America. That is, in fact, to our credit that that is not true any more. I agree on the notion of payment reform. We have to ultimately negotiate payment fees with physicians.

Whether you have to have mandatory assignment, one thing I would certainly always urge is let us keep flooding the market with physicians so that you have enough physicians out there who would be willing to take assignment—that is an option touching upon the constitutional toes of the medical profession—simply to put enough of them out there that there will be always adequate in every region, adequate numbers willing to play with Medicare.

THE FEDERAL DEFICIT

In the final section I look at one of the questions that was on the staff's mind. Could we afford to pay more? Given the Federal deficit, does that not preclude our doing more for America's poor? And secondly, could the Nation spend more on health care than it already does?

The answer to both is yes, certainly we could. The deficit is strictly an artificial device put in by this generation of legislators for reasons, I believe, only historians will ever be able to fathom. It is a self-induced fiscal cross. We are the least taxed nation on earth, and historians will simply ridicule what we did.

So that is not an excuse to look at God and say we cannot really do all of this because look at this deficit. God would call that hutzpah. [Laughter.]

And the second thing is, although I would agree that this health system wastes money by the bucket, if we had to do it to be humane and civilized, I would say we could indeed afford to be both humane and wasteful, because even if we spent 15 percent of the GNP on health by the year 2000, the pie will be so much bigger

then—if you assume 2 to 3 percent real growth—that what is left over after that 15 percent for health, the nonhealth real GNP per capita, I think, will still be something like 30 percent more than it was in 1980. So again, if we wanted to, we could afford to be humane, even if we cannot get rid of the waste. Of course, I would encourage—as Dr. Altman said—to use managed care approaches to get rid of that waste.

Thank you.

Chairman CHILES. Thank you very much, Dr. Reinhardt.

[The prepared statement of Dr. Reinhardt follows:]

Statement by

Uwe E. Reinhardt, Ph.D.

James Madison Professor of Political Economy

Princeton University

before the

Hearing on "Medicare Catastrophic Insurance"

by the

United States Senate

Committee on the Budget

February 25, 1987

My name is Uwe E. Reinhardt. I am the James Madison Professor of Political Economy at Princeton University, Princeton, New Jersey. Much of my research has centered on issues in health economics and public health-policy.

I would like to thank you, Mr. Chairman, for granting me the privilege of testifying before your Committee at this important Hearing. This Hearing addresses an issue that is fundamental to any civilized society, namely, the expressed desire of all civilized peoples to protect one another from undue financial hardship consequent upon the incidence of illness. All modern nations seek to accomplish that goal. With few exceptions, all industrially advanced societies have long ago attained it.

ONLY IN AMERICA

Sadly, and remarkably, the United States remains one of the few exceptions. Americans of all political persuasions should be profoundly embarrassed to have their Secretary of Health and Human Services openly report that "many Americans run the risk of financial ruin when catastrophic illness strikes"¹ and to hear their President state, as President Reagan did on February 12 of this year, that "[f]or too long, many of our senior citizens have been faced with making an intolerable choice--a choice between bankruptcy or death." The embarrassment should be heightened by the fact that illness in America can visit financial hardship not only upon the aged, but perhaps even more frequently upon the 30 to 40 million younger Americans now completely without any health insurance coverage whatsoever. That high proportion of uninsured individuals is unique in the industrialized world.

¹ Department of Health and Human Services, Catastrophic Illness Expenses, Department of Health and Human Services Report to the President, November, 1986; p. 1 of the Executive Summary.

Embarrassment over this issue ought to be a normal reaction in a nation that has never hesitated to describe itself as "the most generous nation on earth" and that takes it as an axiom that "the American health system is the best in the world." To such a people it ought to be vexatious to learn that the issues discussed in Secretary Bowen's report--certainly the concept of "financially catastrophic acute illness"--would be completely alien to the debate on health policy in, say, Canada, West Germany, France or, for that matter, in the most² of Europe. In all of these nations, the individual household has long been fully protected through insurance against the financial consequences of illness. Canada's Prime Minister, for example, or West Germany's Chancellor would never have to make as sober an admission as did President Reagan on February 12, nor would these countries ever have to organize conferences on "The Problem of Indigent Care." They would be mortified if they had to.

While the President's statement may have been, perhaps, a trifle dramatic, its general thrust does find support in the data made available in Secretary Otis R. Bowen's report Catastrophic Illness Expenses, submitted to the President in November, 1986. According to these data, hundreds of thousands of senior citizens still bear annual out-of-pocket health expenditures in excess of \$ 2,000. Of course, good many senior citizens may have sufficient income or networth to absorb such an exposure. But even in the 1977, in the heyday of the Great Society Program, poor and near-poor senior citizens

² Only the United Kingdom in Europe might be singled out from the rest of the industrialized world. As Henry Aaron and William B. Schwartz suggest in their The Painful Prescription: Rationing of Hospital Care (Washington, D.C.: The Brookings Institution, 1984), the British National Health Service does, in some instances, seek to avoid the of high cost of certain procedures simply by limiting access to them. The authors report, for example, that renal dialysis tends to be reserved mainly for the young.

spent an estimated average of 14 percent of their income on out-of-pocket health expenditures (see Table 1 below). That percentage is likely to be higher today. To appreciate the relative magnitude of this outlay, one should recall that in 1985 the label "poor" was officially reserved for an aged if he or she had an income of \$ 5,156 or was a member of a two-person household with a combined income of \$ 6,503 or less.

[Table 1]

Quite aside from the of actual out-of-pocket expenditures an aged person may experience, millions of our aged are still left to wonder just what their annual financial exposure for health care might turn out to be. Even if, in the end, the year passes without an intolerable health bill, we must ask ourselves whether it is civilized to visit such unproductive uncertainty³ on senior citizens who, because of their age, tend to be both vulnerable and highly risk averse and are thus easily despondent over perceived threats to their life style and dignity. If our less opulent neighbor to the north, and most of the less opulent nations of Europe, can free their aged from these financial hardships and uncertainties, cannot this wealthy nation do likewise? To achieve this goal, the United States would not necessarily have to copy these nation's universal national health-insurance systems. The goal could be achieved by a uniquely American approach that provides less than complete first-dollar coverage but still limits the individual household's

³ Americans love to describe themselves as "risk takers," and they may be right in that description. One must, however, distinguish between productive and unproductive risk-taking. An entrepreneur shoulders productive risk. There may be a payoff to that risk. A senior citizen left to fret over the risk of large financial exposure bears largely unproductive risk. It is not clear what kind of payoff society expects from that form of risk-bearing other, perhaps, then the hope that the fretting aged will help Medicare to contain costs. It is not clear how a frightened, seriously ill aged will do that.

TABLE 1

OUT-OF-POCKET EXPENDITURES AS A PERCENT OF TOTAL PER CAPITA HEALTH
EXPENDITURES AND INCOME BY INCOME GROUP

Income	Out of pocket as a percent of total expenditures	Out of pocket as a percent of income
Poor/near poor.....	20	14.1
Low income.....	22	4.3
Middle income.....	24	2.4
High income.....	26	1.2

Source: National Medical Care Expenditure Survey, NCHSR, 1977.

*SOURCE: United States Senate, Special Committee on Aging, Medicare and the Health Cost of Older Americans: The Extent and Effect of Cost Sharing, April, 1984; Table 11, p.27.

financial risk to a tolerable percentage of income and wealth.

Although our nation has tried for decades to do just that, and although we did come fairly close to complete victory over the problem by the end of the last decade, that victory has eluded us so far. Indeed, during the 1980s we seem to have drifted away again from that goal. While that failure is disappointing to Americans who care deeply about this issue, however, it is at least encouraging that the problem has, once again, attracted the attention of both the Administration and the Congress. One must hope that, in the decade ahead, the American people and their legislative representatives will be more courageous, more imaginative and, yes, more generous toward poor fellow Americans than they have been so far.

"FINANCIALLY CATASTROPHIC ILLNESS" IN A WIDER CONTEXT

A "financially catastrophic illness" is generally understood to mean a medical experience whose financing imposes a significant tax upon the economic life style of the afflicted individual's household. The medical experience may be a single, high-cost acute episode of illness. It may also, however, be a series of less serious episodes within one family, or a chronic condition that causes a steady drain on the household's budget.

If "financially catastrophic illness" is viewed in this way, the issue before this Committee today actually represents only one facet of a much wider problem, and probably not even the most troubled one.

As already noted, at this time an estimated 30 to 40 million Americans under the age of 65 have no health insurance coverage at all. Although some of these individuals are uninsured only part of the time, some 20 to 25 million individuals in this country appear to be permanently without health insurance coverage.

About one third of all uninsured Americans appear to be children aged 17 years or less. Clearly, these legally and economically disenfranchised Americans could not reasonably be accused of having chosen their predicament even by observers who prefer to explain lack of insurance coverage among adults in this way. In 1984, about 44 percent of these uninsured children lived in households with incomes below the official poverty line, and two thirds of them lived below 1.5 times the official poverty line*. The general sense among the American people may be that most poor children are covered by the Medicaid program. As is shown in Table 2 below, that notion is false.

[Table 2]

If one of the millions of uninsured Americans falls seriously ill, the budget of the associated family can very quickly become heavily taxed. Such an illness would be "catastrophic" in the sense that word has been defined above, although it may not even involve a truly high-cost episode. Indeed, in an uninsured poor or near-poor American family with many children, even a series of minor illnesses among the children can strain the household's budget. A useful mental exercise for insured middle- and upper-income Americans would be to imagine the budgetary juggling such a situation will trigger. It is a safe bet, for example, that medically productive but postponable contacts with the health systems are forgone in that juggling for the sake of other items pressing on the household's budgets. It is a circumstance no European or Canadian could ever comprehend, let alone condone, and one must wonder why it has been condoned for so long in our proud nation. Quite aside from the question whether our policy in this

* See Margaret B. Sulvetta and Katherine Swartz, The Uninsured and Uncompensated Care: A Chartbook, Washington, D.C.: National Health Policy Forum, George Washington University; charts 2 and 4.

TABLE 2

PERCENTAGE OF CHILDREN LIVING IN POVERTY WHO ARE NOT COVERED BY
MEDICAID, BY STATE, 1980

Alabama	81%	Montana	74%
Alaska	88%	Nebraska	77%
Arizona	Not Computable	Nevada	71%
Arkansas	89%	New Hampshire	49%
California	39%	New Jersey	34%
Colorado	54%	New Mexico	87%
Connecticut	48%	New York	34%
Delaware	44%	North Carolina	81%
District of Columbia	28%	North Dakota	78%
Florida	88%	Ohio	43%
Georgia	57%	Oklahoma	67%
Hawaii	48%	Oregon	53%
Idaho	70%	Pennsylvania	40%
Illinois	38%	Rhode Island	39%
Indiana	68%	South Carolina	83%
Iowa	63%	South Dakota	79%
Kansas	57%	Tennessee	58%
Kentucky	67%	Texas	75%
Louisiana	59%	Utah	64%
Maine	52%	Vermont	51%
Maryland	40%	Virginia	63%
Massachusetts	28%	Washington	49%
Michigan	35%	West Virginia	87%
Minnesota	67%	Wisconsin	57%
Mississippi	54%	Wyoming	80%
Missouri	55%		

Source: Adapted with permission from *The Data Book: The Nation, States, and Cities, 1985*, p. 23, Children's Defense Fund.

CITED FROM: Margaret B. Sulvetta and Katherine Swartz, *The Uninsured and Uncompensated Care: A Chartbook*, Washington, D.C.: National Health Policy Forum, George Washington University, Table 3, p.9.

respect has been civilized--a question that may well be ruled out of order in an era of huge budget deficits--there remains the hard-nosed question of whether such a policy makes cold economic sense.

It is appropriate at least to allude to these other facets of the problem of "financially catastrophic illness" even at a hearing devoted strictly to Medicare. For reasons also not easily comprehended, this nation has subjected itself to the cross of inexcusable, self-induced Federal budget deficits that appear to have stifled reasoned public discourse on social policy^{*}. Under such a self-imposed constraint--however, dubious it may be--care must be taken that so-called "budget-neutral" policies designed to enhance the flow resources to the aged are not carved out of the physical well being of the nation's relatively impoverished Baby Boom and their offspring. Such a diversion is implicitly made if it is attempted to finance more and more of the chronic care for the aged through the Medicaid program, which already devotes over half of its budget to nursing home care for the aged. Added generosity toward the aged at the expense of young and poor Americans would add a cruel mortgage to the already large foreign-debt mortgage this nation is now busily writing every day for amortization by its future generations.

CATASTROPHIC COVERAGE FOR THE AGED

If one were to think afresh about the design parameters of a civilized health-insurance program for the aged, one would surely wish to meet at least the following criteria:

- (1) The total out-of-pocket burden for health care borne by the aged's

^{*} In this connection, I would be happy to share with the Committee my recent paper "The Political Economy of "Feeling Good": True Confessions of a Supply Sider" (mimeographed, February 1987).

household should be "tolerable."

(2) Aged persons should have easy and dignified access to mainstream medicine, as that is defined at any point in time.

(3) The aged should be freed from uncertainty over their annual out-of-pocket outlays for health care.

(4) The administrative process surrounding (a) the choice of options in insurance coverage and (b) the processing of claims should be easily understandable and free of the bureaucratic vexations that rile the aged in particular.

(5) The program should be perceived as equitable by the aged as a group and also by other members of society, particularly those who finance it with taxes.

If one had to grade the performance of the Medicare program on each of these criteria then, even by today's inflated grading standards, only the second criterion would merit a solid A. Whatever other grades one might subjectively assign the program on the other criteria, it can be doubted that many reviewers would be moved to assign these criteria another A.

As Secretary Bowen's report makes clear, the program fails many aged on the first criterion. The program certainly does not free the aged from anxiety over their annual outlays on health care. It is well known that the program by now visits burdensome administrative procedures upon both providers and the aged patient. Finally, the program is no longer perceived as equitable by younger Americans and it ought not to be viewed as fair among the aged themselves. In a nutshell, the program is highly regressive in the incidence of its financial burden.

Against these five criteria, Secretary Bowen's proposal--now the Administration's formal proposal--can be judged as a progressive step in the right direction. Although that step is cautious to the point of being timid, at least that much of a step does deserve legislative support.

According to data compiled by the Office of the Actuary of the Health Care Financing Administration, 3.1 percent of the 27.1 million Medicare beneficiaries (that is, about 700,000 of them) bore out-of-pocket expenses of \$ 2,000 or more in 1983 for services partially covered by Medicare. About 100,000 beneficiaries paid more than \$5,000 out of pocket in that year. If one adds outlays for health services not included in the benefit package of Medicare--for example, prescription drugs, skilled-nursing home or home-health care services beyond the maximum coverage, and appliances--the out-of-pocket exposure of these aged appears even worse. The Administration's proposal would limit the annual out-of-pocket exposure of the aged to \$2,000 for both Parts A and B. Clearly, this is an improvement in terms of the first criterion listed above, the reduction of the out-of-pocket burden to tolerable levels.

I judge it an inadequate step, however, because an annual stop-loss of \$ 2,000 remains a heavy burden for the millions of aged who are poor. According to data from the Current Population Survey of the U.S. Bureau of the Census*, some 7.1 million American households headed by a person aged 65 or older had a household income of \$ 10,000 or less in 1985. This number represents about 38 percent of all households headed by a person aged 65 or older. Although some of these households are entitled also to benefits under the Medicaid program, for many of them not in that program a risk exposure of \$2,000 per year remains a source of anxiety and, when serious illness does strike, a heavy financial burden. Thus, while the Administration's proposal is a partial positive step, it does bring the grade one would

* U.S. Bureau of the Census, Current Population Survey: Money, Income and Poverty Status of Families and Persons in the United States, 1985, P-60 #154 "Consumer Income," Advance Data, March, 1986.

assign Medicare for the first and third criteria at most from, say, a C to a B-. It is not a class-A solution, and it falls far short of what is achieved by other nations. Americans can, and should, do better.

Would passage of the proposal make Medicare more equitable than it is in its current guise? Depending, of course, upon one's own conception of distributive justice, one may judge the plan as wanting on ethical grounds as well, for reasons already touched upon above. For many well-to-do aged, a stop-loss of \$ 2,000 may be needlessly generous. For the poor among the aged, it is excessively burdensome. Perhaps the time will soon be at hand when the representatives of the aged themselves may embrace the notion of some redistribution of economic privilege from higher-income aged to lower-income aged. I shall return to that issue further on in my statement.

Ostensibly, the proposal is budget-neutral, and it does not come at the expense of either working taxpayers or poor and young households. That is a decided advantage and will contribute to its political appeal among the younger voters. Whether the plan would continue to observe these desiderata in the future is, however, a matter of conjecture.

As I have argued in a number of earlier papers, it is occasionally useful to visualize the health-care sector irreverently as a giant dinner table seating guests otherwise known as health-care providers who go thither in search of fiscal nourishment known to us as health-care expenditures and to them as health-care revenues'. A question probably on everybody's mind at this stage is whether the proposed plan might be perceived by the guests as new and richly laden place settings that would draw hungry diners to a

⁷ See "Table Manners at the Health-Care Feast," in Duncan Yaggy and William G. Anlyan, Financing Health Care: Competition versus Regulation, Cambridge, Mass.: Ballinger Publishing Company, 1982; pp.13-33.

hitherto shunned corner of the table.

Perhaps it will not. The Administration's proposal does away with the current limits on the number of hospital days that now take force on the 61st day of a hospitalization; but such cases are rare and are likely to remain so in the future. Furthermore, reaching the \$ 2,000 limit on out-of-pocket expenditures would imply total annual health expenditures in excess of \$10,000, which is also relatively infrequent. Even so, to preclude a growing popularity of this corner of the health-care dinner table, it would be desirable to incorporate into the Administration's proposal strong provisions for externally managed care of the sort now provided in the private sector.

The Administration's proposal stays solidly within the traditional focus of Medicare, that is, it proposes added coverage primarily for on acute-care episodes of illness. It does not offer any solution for financing chronic care for Americans now in retirement or close to retirement. That problem is left for another Administration or for Congress to solve.

The Secretary's report to the President does offer a number of constructive suggestions to improve the funding of longterm care for the now working population. Basically, the suggestion is, first, to inform a relatively myopic people of the risks, costs and financing options for longterm care they will face many decades hence and, second, to encourage younger worker to build up savings accounts for these contingencies. As an economist who is both amazed by and dismayed over this nation's astoundingly low ratio of Gross National Savings to Gross National Product--a ratio that has the distinction of being the lowest in the industrialized world--I can only encourage Congress to entertain seriously Secretary Bowen's suggestions in

this respect. Legislation to implement these suggestions would be a sound investment in America's future. It would not only set aside resources for future longterm care, but it would also provide sorely needed funds for capital formation and research. This nation will need added investible funds to finance the macro-economic challenges ahead. The days when America could rely on foreign savers to help finance huge government deficits and capital formation--as it did in the 1980s--will soon be over.

Finally, the Secretary's report does address in a separate chapter the problem of financing catastrophic illness for younger Americans. The suggestions made in that chapter are in keeping with numerous similar proposals that have come forth in recent years. They rely on a complex mixture of tax inducements, regulatory strictures imposed upon business firms and other regulatory initiatives, mainly at the state level. Once again, these are cautious steps in the right direction, but they still leave gaps in health insurance coverage. One could think of bolder steps.*

MEDICARE REFORM IN THE LONGER RUN

The gist of the preceding section has been that the Administration's proposal is but one incremental step in the evolution of the American health insurance system. It should be embraced, but it will soon be judged inadequate to the challenge before the nation.

What might be some targets for longer-run reform of the Medicare program short of folding it into a bona fide national health insurance system, an option unlikely to be entertained seriously by this nation for at least a

* I have proposed a bolder scheme in "Health-Insurance for the Nation's Poor: Short- and Long-run Options," forthcoming in the Spring 1987 volume of Health Affairs, along with alternative proposals suggested by other policy analysts.

decade, if ever?

The traditional approach to Medicare had been predicated on several firmly held notions, to wit:

- (1) that, in the United States, a program designed to help the lower-income groups will always be inadequately funded unless all other income-classes are folded into that program as well;
- (2) that it is economically feasible and ethically defensible to operate the Medicare program, along with the Social Security Program, essentially as an inter-generational transfer program (even if, for psychological effect, one marketed it as a savings and insurance program);
- (3) that the program must offer the aged all conceivably available health services on terms that offer the aged completely free choice of provider; and
- (4) that the program ought to transact with providers as if it were a mere appendix that can adapt itself to a reasonably well functioning private health-care market.

All of these axioms are up for re-examination at this time.

The notion that a social program in America does not have a chance for a sound economic basis unless it embraces all economic classes has a fleeting intuitive appeal, but only a fleeting one. Surely it must have been learned by now that the cost of such an approach exceeds the nation's political tolerance for the requisite income transfers. Unwilling to make those transfer, the nation has therefore evolved a health insurance program for the aged that is very incomplete indeed in its coverage of benefits, that gives the well-to-do aged greater subsidies than they may need and that leaves the poor aged subject to severe fiscal and psychological stress. Indeed, the means-tested Medicaid program is much more generous to its clients (if not to providers) by comparison. The notion that the approach incorporated into Medicare is superior to an honestly means-tested approach requires reexamination. Perhaps it will turn out that American taxpayers

would be more generous toward their poor if they could be assured that, for every poor they subsidize, they would not have to finance also support to one or two better-off citizens who could, in principle, take care of him- or herself.

Nor is it clear anymore that old-age economic security and health care can easily be accomplished through mere inter-generational transfers when generations fluctuate as much in size as they have in this century. At this time, only about 44 percent of all living Americans are actually producers of GNP. That ratio is known to decline in the future, especially as the Baby Boom begins to grey. In such an environment, it is crucial that citizens be educated to sensible, long range life-cycle planning, as is clearly recognized in Secretary Bowen's proposal.

In the meantime, however, one must wonder whether the generations of now retired Americans have not forfeited some of their moral claims to generous non-means-tested income transfers from working Americans when they voted as enthusiastically as they have in the past two Federal elections for political candidates openly advocating massive tax cuts and massive increases in defense spending. If the aged wish to enjoy large unrequited income transfers from the now working population, they ought at least to vote for the requisite taxation, unless they wish to be known in history as America's Louis-the-Fourteenth generation operating in the slogan "Apres nous, le deluge!" (loosely translated, in this context, "let the offspring of impoverished Baby Boomers fend for themselves!"). That would be a reckless vision for America's future.

Finally, the notion that Medicare is but an appendix to a wider, private health-care market and can therefore adapt itself to that market in its

transactions with providers seems no longer tenable. In 1985, private health insurance paid for about 36 percent of total national expenditures on hospital care. Medicare paid for 29 percent and all governmental programs combined for 54 percent. Overall, Medicare paid for 21 percent of all expenditures on physician services, but that average masks considerable variation among medical specialties. For many procedures--for example, cataract extraction and lens implants, hip replacements or coronary bypass surgery--Medicare is the market to which all other payers must adapt. In short, it is simply a fiction that Medicare can read off the market what level of compensation for providers is reasonable. Sooner or later, these compensation rates need to be discussed with providers in formal negotiations with associations of providers.

A number of proposals for Medicare reform have recently been made that would move in the direction suggested by the preceding remarks--among them the Pepper Bill⁹, the Harvard Medicare Project¹⁰, and a proposal presented by Karen Davis and Diane Rowland¹¹. In one form or another these proposals eliminate the strict artificial separation between Parts A and B of Medicare and add, either as a elective option or as an integral part, a longterm care component. While not formally means-tested, the proposed plans would introduce back-door means-testing by charging the added a premium for the combined package that rises with income. The balance of the program would be

⁹ H.R. 4287, February 28, 1986.

¹⁰ Harvard Medicare Project, Medicare: Coming of Age. A Proposal for Reform, March, 1986.

¹¹ Karen Davis and Diane Rowland, Medicare Policy: New Directions for Health and Long-Term Care, Baltimore: The Johns Hopkins University Press, 1986.

financed from sources already on the government's books.

Tables 3 exhibits displays taken directly from a publication by the House Ways and Means Committee¹². These data describe the aged's relative position in the nation's distribution of income and wealth. In these displays, the aged as a group do not stand out as particularly poor. To ask the relatively better-off among that group to contribute somewhat more towards a civilized acute- and longterm health-care program for all American senior citizens therefore does not seem to amount to a breach of our implicit social contract. To facilitate such contributions, however, Congress should explore ways by which the considerable wealth of real assets now held by the aged--estimated in the Secretary's report at over \$ 700 billion--could be converted into liquidity through government-guaranteed or at least government-supervised reverse mortgages¹³. Equity in a home constitutes about 66 percent of the aged's average household networth.

What role should cost sharing play in a reformed Medicare program? In principle, there always is merit in imposing at least some cost sharing upon patients, if only to enlist them as auditors of the providers' bills. To prevent cost sharing from becoming an undue tax on the household of poor aged, however, the maximum annual risk exposure clearly ought to be related to ability to pay. That requirement, in turn, could bring with it cumbersome administrative procedures, which is a cost one ought not to underestimate. Indeed, if one measures the degree of "bureaucratization" of a process not by the number of civil servants who participate in it--the usual such

¹² U.S. House of Representatives, Committee on Ways and Means, Medicare, Health Care Expenditures and the Elderly, March 15, 1985.

¹³ It can be doubted that, at this time, the nation would entrust such a program strictly to the good offices of the private financial community.

TABLE 3

THE RELATIVE INCOME AND WEALTH POSITION OF THE AGED
UNITED STATES, ca. 1980

TABLE 11.—PER CAPITA FAMILY INCOME,¹ BY AGE OF FAMILY HEAD, FOR SELECTED YEARS

(In 1980 dollars)

Age of family head	1970	1975 (percent change: 1970 to 1975)	1980 (percent change: 1975 to 1980)	Percent change 1970 to 1980
All families	\$6,784	\$7,320 (7.9)	\$7,753 (5.9)	14.3
25 to 34	\$6,001	\$6,841 (14.0)	\$7,172 (4.8)	19.5
35 to 44	\$5,827	\$6,416 (10.1)	\$7,172 (11.8)	23.1
45 to 54	\$7,803	\$8,180 (4.8)	\$8,584 (4.9)	10.0
55 to 64	\$9,170	\$9,463 (3.2)	\$9,984 (5.5)	8.9
65 and over	\$6,273	\$6,977 (11.2)	\$7,238 (3.7)	15.4

¹ Total family income divided by number of family members. Unrelated individuals are considered as families.
Source: Figures compiled by CRS from U.S. Census Bureau Reports (Series P-60).

TABLE 14.—MEAN AND MEDIAN NET WORTH, BY AGE OF HOUSEHOLDER, 1979

	Net worth ¹	
	Mean	Median
Age of householder:		
All ages	\$62,430	\$25,770
Under 25	8,880	3,450
25 to 34	24,520	12,110
35 to 44	64,950	29,820
45 to 54	79,120	39,180
55 to 64	105,740	51,440
65 and over	79,380	38,720
65 to 69	90,040	47,300
70 to 74	85,480	45,440
75 and over	65,130	28,410

¹ Net worth is defined as wealth minus unsecured debt.

Source: Daniel B. Radner, "The Wealth and Income of Aged Households," Forthcoming in the 1984 American Statistical Association Proceedings, Social Statistics Section. Data developed from 1979 Income Survey Development Program File.

SOURCE: U.S. House of Representatives, Committee on Ways and Means, Medicare, Health Care Expenditures, and the Elderly, March 15, 1985; Tables 11 and 14.

measure--but by the ounces of paper that must be processed per transaction, then without any doubt the American health system ranks as the most bureaucratic health systems in the world. I am not aware of any other country in which both providers and patients have to fill in, mail, check and file quite as many pieces of paper per physician visit or hospital stay than they do in this country. The point is that any benefit thought to be achieved by forcing the aged to share in the cost of health-care at point of service ought to be weighed against the both the monetary and the non-monetary costs of processing the requisite paper.

Finally, as already noted, a reformed Medicare program must provide for a more systematic negotiation with providers over the compensation to be paid the latter. Until the early 1980s, Americans generally left it to the providers of health services to determine (1) the quantity of health services to be rendered patients, (2) the quality of those services and (3) the prices to be paid providers for these services. Since 1983, the Medicare program has shifted abruptly toward unilaterally administered prices for hospital care, and it may well move soon toward unilaterally administered fee schedules for physicians. In the longer run, all nations whose governments contract with health-care providers have found it advantageous to engage in more formal negotiations with providers.

In connection with the compensation of providers, the most fundamental question is, of course, whether or not mandatory assignment ought to be made binding upon all American physicians. Most other nations do impose that requirement on their physicians. In the face of a growing physician surplus, however, so drastic a step may not be necessary in the United States, particularly because that requirement would be viewed as downright un-

American by physicians and perhaps even by relatively well-off patients.

Congress should, however, continue to keep in place powerful financial incentives for physicians to take assignment, as it already has, with some success. At the same time, the aged should always be well informed, ex ante, which physicians in their neighborhood do and do not take assignment. The ultimate objective should be to free the aged of the uncertainty they now face in approaching a physician for help.

THE FEDERAL DEFICIT

In conclusion, the question can be raised, particularly in connection with longterm care for the now retired, whether the Federal budget could withstand any additional burden and, indeed, whether the nation's economy could tolerate any further increase in the percentage of its Gross National product going to health care. The answer to both questions is YES.

As already noted, the Federal deficit is strictly an artificial constraint this President, and the Congress that worked with him, imposed upon the nation, for reasons only historians may eventually fathom. It is not an immutable economic constraint like, say, the laws of physics. It is a political statement pure and simple.

If the nation decided to provide its aged a tranquil and humane evening for their lives, it has ample resources to do so. With the exception of Japan, the United States now has the lowest ratio of taxes (at all levels of government) to Gross National Product in the industrialized world. Furthermore, the American population is still relatively young by international standards. We shall reach the age distribution already present in Europe now only in the next century. Thus, there should be no question that we could

afford to implement whatever noble sentiments we might develop on care for the aged, especially if the aged could be induced to practice some noblesse oblige among themselves, in the manner suggested earlier..

As I have argued elsewhere¹⁴, it is similarly not true that additional outlays on health care would bankrupt our economy. If real GNP grew by about 2 to 3 percent per year in the next twenty years and if we were to spend even as much as 15 percent of real GNP on health care twenty years hence, the remaining non-health real GNP per capita available to Americans would still be much larger than it is today. Besides, critics who argue that spending on health-care is bankrupting the nation might be asked to answer the following question: if outlays on added hospital- or nursing-home days bankrupt the nation, why do not added outlays on automobiles or hoola-hoops do the same?

I leave the Committee to ponder this weighty question and thank you again, Mr. Chairman, for offering me the opportunity to appear before your Committee.

¹⁴ "What percentage of its GNP should a Nation spend on Health Care." (Mimeographed).

RECALCULATE DRG PAYMENT BASE

Chairman CHILES. Dr. Altman, you are providing Congress a real service in your role as chairman of the Medicare Prospective Payment Assessment Commission. We know that the Commission has served as our primary source of information on what has been happening to Medicare, and you have also made recommendations for adjustments to hospital payments.

I would like to get your viewpoint on a proposal to recalculate all the hospital DRG payments by rebasing. The CBO reports that new data on hospital costs show that the 1987 Medicare hospital payment rate is about 12 percent above actual cost. If we rebase the system and bring the base upon which the individual DRG rates are calculated in line with the newer cap cost data, we would save \$4.4 billion in fiscal year 1988, and those savings would be \$27.2 billion over the next 5 years.

My understanding is that the Commission does not dispute the CBO findings on the data. And I would like to ask you if you think that is true and whether we are talking about a difference of about 12 percent between what it costs to treat Medicare payments and what we are now paying hospitals. What are your views on this.

Dr. ALTMAN. Well, first of all, thank you for the kind words. I hope we are providing you and the Congress with a service. I would not mind a letter like that to the President of Brandeis. Sometimes she wonders why I spend so much time in Washington.

You have asked a very difficult question and I will try to answer it the best I can simply. First, we are testifying tomorrow before the Ways and Means Committee on this and I have given your staff my complete testimony, so all the mistakes I make now will hopefully be rectified for the record.

It is true that our estimates, Pro PAC estimates are in line with the CBO. In fact, our estimates are actually slighter higher. We indicate, based on our assessment, that if you look at 1984 actual costs and compare it to what was expected in 1981—would-be 1984 costs—and look at those differences, you are dealing with about a 14-percent differential between the two.

Now, 14 percent is close to \$5 billion, so we are dealing with significant numbers. It might seem appropriate to simply say, all right, in 1988 we are going to rebase, bring the calculations back to what the costs were in 1984, project it upward, and go forward. I think that would be a mistake. I think it would be a mistake at several levels.

First, I do believe we should recalculate, and I do believe we should take costs into account. But several things have happened between 1984 and 1987, and some of them have to do with the fact that we actually have been slowly, tightening the reins a bit on hospital reimbursement. Not that hospitals, on average, are in any financial crisis, although there are some isolated problems.

So first, the Government has always been taken some of this excess away. I would never have been able to get up before any legislative body in the last 3 years and say, I feel comfortable in saying that you can give hospitals less than the market basket, had I not known that this cushion existed.

Now, it is not that I had these estimates in my pocket. We knew something was happening. We did not know the magnitude. Now we know the facts, and the excess is greater than we ever expected.

The second reason is that the basic core of the DRG system is to create incentives for hospitals to be more efficient. If we play this cat-and-mouse game with the hospitals I think both of us are going to lose. If we say you save money and then we take it away and then you save money and we take it away, I think the net result will be a system in constant chaos.

Again, that does mean that we should not share the savings between the hospitals and the Government. The hospitals are going to testify tomorrow, I am sure, that the system should permit hospitals to keep all the savings. Well, I cannot buy that. I believe, the idea of the DRG system was to have everybody share in the benefit, not only the hospitals; the Government, and patients, as well. So, I think there shall be some sharing going on.

Third, without getting into a lot of detail, those costs were unaudited and there are still some problems with them. When all gets said and done, my best shot—Pro PAC, by the way, has not made a final vote on this—my best shot is that between 4 and 6 percent of this amount can and probably should be taken out of the authorized amount for future payment.

I would recommend that it be taken back over a couple of year period, which means about 1½ to 2 percent per year and that it be done by taking it away from a standardized amount, not the update factor. The potential money dollars are significant. One percent is \$400 million. Therefore we are dealing with \$600 to \$800 million a year that can be taken out of the standardized amount.

The system is beginning to press hard. If we reduce the standardized amount too quickly, across the board there are going to be some hospitals in financial trouble.

So I think we need to do it carefully. The bottom line is, yes, there have been overpayments and there probably should be some reductions, but be careful.

INCLUDE HOSPITAL-BASED DOCTORS UNDER DRG'S

Chairman CHILES. One of the proposals is to include the hospital-based physicians under DRG's. I am hearing from anesthesiologists who are saying they disagree that they are hospital-based physicians. And of course, I like all physicians, to be placed under the hospital is anathema to them. They are very reluctant on that.

They are saying, look, there is a way in which our fees are set now for Medicare. If there is a question of some savings, quantify what those savings would be under DRGs and what people would expect from those and adjust the basis upon which you are now compensating us.

In other words, we will come to the table and let you say what these savings should be. But do not place us under the DRGs, which we think puts us under the authority of hospitals, where they are telling us what to do and what our quality of medicine should be. Anesthesiologists, for example, wonder when you have a procedure that does not take into account, necessarily, other complications for that individual patient, depending on the case histo-

ry, how are you going to handle that particular patient? Would it be better to allow them to adjust it? I would like to have your views on that.

Dr. ALTMAN. Well, maybe I should let my colleague—since he has the responsibility for making a recommendation, I will listen to him and then see what he says.

Chairman CHILES. Fine.

Dr. REINHARDT. This is an issue that will undoubtedly come to the Physician Payment Review Committee, although it has not yet, formally. There is no doubt that if you went to the DRG route and folded it into the DRG, you basically are converting those professions into salaried employees of the hospital.

Sooner or later that would happen. So that is really the issue; do you want to do that or not. I personally feel, although I might be persuaded in open hearings, that for all the money you would save, going to a negotiated fee schedule with them might be an alternative where you could squeeze out some savings for the taxpayer and yet leave them their self-esteem and their self-image as a profession.

The protestations they make, that they are just like a pediatrician, a physician that patients choose, I find that disingenuous. One normally does not choose anesthesiologists. They sort of come in a tie-in sale with the hospital.

So that part of it I find unimpressive. But ultimately one does have to think, in health care, about industrial peace. And when you want to get people terribly upset, it ought to at least be profitable. And I sort of wonder in this case what is the profit? Or can you not get almost as much and keep them happy. But I am speaking as an individual and not as a member of the Commission.

FEE FOR THE TOTAL

Dr. ALTMAN. Let me add my comments. I am sympathetic with where Uwe is coming from at one level, and that is, if we could attain the same goals without tying it into the hospitals I would have no problem with it. But it is not only the fees that are a problem, it is also the proliferation of the number of physicians that bill for the same patient. You have the surgeon, the assistant surgeon, the anesthesiologist's assistant and the assistant to the assistant. If you stay on a fee-for-service system, even if it is based on a negotiated fee, unless it is a fee for total cost I think you are going to see proliferation.

Chairman CHILES. Well, I think in the condition they find themselves in now, I think they would even opt for a fee on the total, because I think they are—

Dr. ALTMAN. And I think it should be an average fee. I think that—just like the DRG system, we can do a pretty good job for hospital-based physicians—we have already been testing this—we can do a pretty good job for hospital-based physicians on what fees on average make sense.

Now, if they are willing to accept all of that and the only thing that bothers them is that the check is written by the hospitals, I could see moving it away. My own view, personally, is that as soon as they won that battle they would fight the next one.

Chairman CHILES. Well, I do not argue that. But I think with the barrel of the gun that they are now looking down, they are ready to do that. They said, you know, someone has got to have in mind what they expect us to save. Quantify that figure, tell us what it is. The devices under which our fees are now paid can be ratcheted down and can be adjusted.

I do not follow this like both of you do, but it seems to me if you can do that—keep peace—and you get the dollar savings, that could be a direction in which to go.

Dr. REINHARDT. Maybe we ought to add one—certainly, re-bundling, so that you have a larger set and averages, I would fully agree with this.

The other thing is, perhaps here is a case, if the fee is reasonable, where mandatory assignment has its place, where you would say, you do not then, all of a sudden, dump on the aged yet another bill that they could not foresee.

Chairman CHILES. Yes.

Dr. REINHARDT. And I think closure on that account, which is what the DRG would do, of course, is something they should give on as well.

Chairman CHILES. Well, that is interesting. I am sure that those are things the Ways and Means Committee and the Finance Committee will have to be wrestling with as they go forward with this.

PROBLEMS WITH PHYSICIANS PAYMENT SYSTEM

Dr. Reinhardt, a recent report called the current physician payment system inherently inflationary and so complex that neither doctors nor patients could understand it. What is the matter with how we pay physicians now?

Dr. REINHARDT. Well, originally when Medicare was put on the books there was an attempt to adapt the program to the market out there, and the only way, really, to do this was to have what we call the usual, customary, and reasonable—or customary and prevailing and reasonable charge system—CPR system, which was basically an attempt to find the physician's, the individual physician's, normal fee, and then to see whether that was reasonable in the sense that it would not exceed too much the fee of his colleagues in his area.

I think that system has a built in inflationary tendency, and that is, if I want to have a high profile, each time I raise my fees so that next year's usual becomes very high, and the worst that could happen to me is that I will not get that fee but simply get the prevailing in the area.

I think this payment system now is so complex that even I cannot understand the forms that physicians have to fill out to figure whether they are actually committing a felony or not. I think that is the maximum allowable charge system. I find that extremely complex, and I have a Ph.D.

START REFORM WITH A CHARGE-BASE PAYMENT SYSTEM

So I would think that one way to solve this problem would be—the physicians will move on that one too—toward a fee schedule, some fee schedule. There are many ways you can do it. You can

wait until Harvard and the AMA have come down from the mountain with the cost-base or relative value scale system where every procedure has—

Chairman CHILES. When do you anticipate they will come down?

Dr. REINHARDT. They are to come off the mountain in 1988, I think. Now, my hunch is, given that they are both rather political institutions, what they will come up with may not be all that different from a charge-base system, and therefore if you wanted to do something sooner, you might start with a charge-base system—it really would not be in the blood of either these Harvard people or the AMA to deviate too much from that anyhow—and then work, in the longer run, toward a cost-base system.

What I think it will do, it will simply take out those items that are what is now by Congress called inherently unreasonable. There are some fees that on an hourly basis really do stick out as very, very high.

I think even a charge-base system now could take those out through the inherently reasonable formula by Congress. So that might be a way to reduce all of this profile and processing to give certainty to the physician what is paid, and also to the aged what is it that they owe 20 percent of.

Chairman CHILES. How long do you think it would take to implement such a fee schedule?

Dr. REINHARDT. I think it could be done within a year, easily.

Dr. ALTMAN. There is a lot of information already.

Chairman CHILES. And would you say that there could be substantial savings to be made from it?

Dr. REINHARDT. Well, some savings, possibly, but I think what it would really do is take away some of the ill-humor around Medicare that now really sits. And for all the money we spend, both the patients and the physicians are terribly upset by this system. And just getting rid of that, for the same money, I would call progress. And maybe you could save, if you did it, under \$200 million.

But the main point of that, I think, would be to have a more civilized conduct between the government, the physician and the patient.

HOW TO CONTROL HEALTH CARE ESCALATION

Chairman CHILES. The point you raised about the civilized conduct is certainly something we would like to do, but we would also like to do something about this health system we find growing seven times above the rate of inflation. How in the world do we ever get control of that at least in future cost?

Dr. REINHARDT. It would set the base line to move in the future to explore and to have an open dialogue, frankly, with the physicians of America about the following question; what is a reasonable annual income for a physician.

Every other nation discusses it, and we cannot run away from it ourselves. And a fee schedule is a perfect instrument on the basis of which to discuss such a thing.

Dr. ALTMAN. I was just going to say, Medicare has already been very tough on what it pays for physicians, so I do not think you are going to save any money to the Medicare Trust Fund through any

kind of fee schedule. You will, however, save lots of money for the beneficiaries who now pay these excess charges. So I think for the total system there is savings, but for the Medicare Program and your immediate concerns in the Budget Committee I think you have to look elsewhere. I think there are places but I do not think that is where it would be.

Chairman CHILES. Well, we thank you both for your testimony. It has been very helpful to us.

Dr. REINHARDT. Thank you.

Dr. ALTMAN. Thank you.

Chairman CHILES. Thank you for the good work that you are doing.

[Whereupon, at 4:05 p.m., the committee adjourned subject to the call of the Chair.]

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EDUCATION POLICY

WEDNESDAY, JANUARY 14, 1987

U.S. SENATE,
COMMITTEE ON THE BUDGET,
Washington, DC.

The committee met, pursuant to notice, at 10:30 a.m. in room SD-608, Dirksen Senate Office Building, Hon. Lawton Chiles (chairman of the committee) presiding.

Present: Senators Chiles, Sasser, Exon, Lautenberg, Sanford, Fowler, Conrad, Domenici, Kassebaum, Symms, Grassley, Danforth, and Nickles.

Staff present: Richard N. Brandon, staff director; and Kathy Deignan, group leader for human resources.

For the minority: G. William Hoagland, staff director; and Michael Carozza, senior analyst for human resources.

Chairman CHILES. The committee will come to order.

OPENING STATEMENT OF CHAIRMAN CHILES

Mr. Secretary, we are happy to have you with us. We welcome you to the Senate Budget Committee.

You cannot always judge how much you care by how much you spend. But when it comes to the Federal Budget, you can size up your priorities by where you have cut.

Quality education is the bedrock upon which we build the future—better teachers, students with more opportunities, more parents more deeply involved in the educational process.

So I agree that you cannot always make things better by throwing money at a problem, but cutting money does not always solve the problems either, especially in education when it creates an even larger economic problem in the future. Without people with the right training for good jobs, we shrink our horizons and we waste our opportunities.

You have some reasonable ideas in the education budget, But I think they are overwhelmed by the cuts. Among the most overwhelming is that somehow reducing the number of people able to get a college education represents progress.

EDUCATION CUTS HURT ECONOMIC COMPETITIVENESS

This year the administration has adopted the theme of competition, something that a number of us have been pushing for some years. The problem is, while we have got a host of students on the field willing to go for the gold, we have a government on the sidelines suggesting that we settle for lead-pipe last.

At a time when the rest of the world is heeding the wisdom that says if you want to get a good job, get a good education, we find 30 percent cuts in education funding.

Education cuts account for nearly one-third of the savings proposed by the President in his budget. Financial assistance to college students is cut 45 percent. That is certainly going to make it harder for the low income to get a higher education. It seems to me you are discouraging people with hopes because they happen to be people without money.

The budget wipes out the vocational education programs. I would be frank to say I think we need to modernize some of those programs. But when you give up on them, you also give up on some people who are searching for a chance to do better and add to the economic power of our Nation.

We have been told we are lagging behind, falling short and slipping in our international economic position. Yet teachers tell me they want to improve their methods in the classroom and students want to do well in school so they can do well in the workplace. And as a nation, we want to do better in every learning situation from the student in the classroom to the worker on the job. But this budget seems to go in the opposite direction.

In the past several years, we have studied the American education network time after time. The studies always seem to yield the same results. There is more to do. Three recent National Academy of Science reports tell us we have serious math training deficiencies in grades 1 through 12.

With technology central to advancement in virtually all the sectors of the economy, the budget takes math and science teacher training out of the mandated portion of the federal budget teaching training grant.

We do find some increases in funding for the National Science Foundation. That would be a plus if it were not for the fact that we have neglected that area for so long.

There is something else. Just a few months ago, public indignation over drugs was intense. Yet the budget contains a 50-percent cut in funds for the Drug-Free Schools and Communities Act.

I think that sends the wrong message. It seems to me that excellence in education and safety in the classroom must be more than parts of a speech; they have to be facts of life.

Mr. Secretary, from Europe across the Atlantic to Japan across the Pacific, we are in the most intense economic competition in history. Nations around the world believe in education as a bridge to a better life.

We have come to that bridge again, and we have got to cross it with well-educated students, freshly trained workers, and the confidence that if you want to get ahead, to go to school.

I know education has traditionally been the work of State and local jurisdictions. The Massachusetts Constitution of 1780 spoke of "cherishing the interest of science." You find similar references in State constitutions from Vermont to Indiana to Texas.

The Federal Government must not usurp those responsibilities. But neither should it abandon the obligation to move us forward as a nation. I am all for meeting those obligations at lower cost; but if the ultimate cost is diminishing our leadership and our economic

power, then we have to take another look at the budget, and that is what we will be doing today.

Senator Domenici.

OPENING STATEMENT OF SENATOR DOMENICI

Senator DOMENICI. Thank you very much, Mr. Chairman.

Mr. Secretary, it is good to have you here. I think it is generally known, Mr. Secretary, at this point that this Senator is rather receptive to the President's overall format in the budget. It seems to me that moving in the direction of trying to reach the targets under Gramm-Rudman-Hollings is a good one. As I said yesterday, I think the defense numbers are reasonable. That is point number one.

Point number two. I think you have done a good job in this Secretary's position. I recall when I voted, contrary to much advice, for the creation of the Department of Education and the establishment of the Secretary. I said we ought to have somebody at the national level that has an opportunity to speak out about the problems of education.

Now, Mr. Secretary, I want to compliment you in that regard. I believe you have focused attention on one of the most significant areas of shortcoming in our nation, and that is quality education.

EDUCATION BUDGET NOT SERIOUS

So in typical Domenici style, you have heard the good news. Now you will hear the bad news. Having said that, I do not believe you can be serious about this budget. We are going to give you every opportunity to be heard here. But how you could take an education budget, look at it and say, maybe it received a little more money than necessary in the past couple of years, maybe we have two or three programs that ought to be reformed, maybe we ought to refocus some of this educational thrust. All of those options might be realistic.

But to then say we will take \$5.5 billion out of the appropriated levels for education, returning funding for this department to \$14 billion. This level goes back to 1980—not 1984, not 1983, but clear back to 1980. It seems to me to be a giant step backward. I regret telling you that, but I believe that is the case.

To totally eliminate funding for vocational education seems to me to send the wrong signal with reference to our national government's partnership in solving the problems of education, productivity, and competition.

There are other concerns that I have, but stated simply, I do not believe the Department of Education can conceivably be responsible for \$5.5 billion out of about \$19 billion in domestic cuts from everything across the government's entire budgetary involvement. I think this cut is just a little bit overboard. I do not think it will work. That is enough reason to caution you. I just do not think it is right.

Now, Mr. Secretary, I remain interested in what you are suggesting about new ways to finance college students. Obviously, we ought to hear new and better ideas, and you want to talk about one

that you think will save money and do the job. We look forward to hearing from you on that.

You have a couple of other positive thrusts that are exciting—new, small but nonetheless exciting. We look forward to hearing from you on those topics.

I thank you very much for your efforts on behalf of education. And, Mr. Chairman, I am pleased that we have the Secretary of Education here with us today. Thank you very much.

Chairman CHILES. Thank you, Senator Domenici.

Mr. Secretary, I understood that Senator Sanford gave you some advice outside as your friend; he advised you not to come in this room. So I guess you are wondering whether you should have heeded that advice or not. We will call on you now to make your statement.

STATEMENT OF HON. WILLIAM J. BENNETT, SECRETARY OF EDUCATION, ACCOMPANIED BY UNDER SECRETARY GARY BAUER AND DEPUTY UNDER SECRETARY BRUCE CARNES

Secretary BENNETT. Thank you. I am impressed, at least, by the bi-partisan nature of your opening statement. [Laughter.]

That is the good news.

Let me read my statement, if I may. I certainly appreciate the opportunity to appear before you to discuss our budget.

As you have pointed out, we are requesting \$14 billion, \$1.2 billion less than last year's request but similar in its priorities and objectives. This is tough, lean budget. It is also, however, a responsible budget in terms of what the Treasury can afford and a responsible budget for American education—for our children, their schools and their futures.

MUST MAKE HARD BUDGET CHOICES

We have prepared a budget that meets, as it must meet, the outlay target set by the Gramm-Rudman-Hollings Balanced Budget and Emergency Deficit Control Act of 1985. We take that seriously. This legislation signaled that the President and the Congress were serious about the need to put an end to deficit spending. There is no doubt that the cure is strong, but the alternative, to ignore the mounting deficit, would prove ruinous to our Nation and our economy. Ultimately, it would be ruinous for our children, too. So we must make reductions. Under different circumstances, I would be sitting before you with a different budget.

At the same time, we must not allow the reality of federal budget cuts to distract us from the fact that spending has increased in American education over the last 6 years.

I do not want that yet, if you do not mind.

Total national spending for education has climbed steadily. This department's share is less than 7 percent of that total. National spending was up almost \$16 billion in the last year alone to a total of over \$282 billion. The \$5.5 billion reduction we propose in Federal spending is real, indeed, but we think it will be more than offset by a projected \$14 billion increase in spending for education from other sources.

ADMINISTRATION IN FOREFRONT OF EDUCATION REFORM

Clearly, and this point cannot be lost, the American people are not underinvesting in education. They want quality and they are willing to pay for it. Further, the decline in test scores has ended, SAT's, ACT's, and others. Responsibility for these improvements lies not with the spending of Federal dollars but with a broad-based national effort. I take great pride in the fact that, although education is primarily a State and local responsibility, this administration has been at the forefront of the reform movement.

Now, the task we faced in assembling the 1988 budget was how to make the necessary savings while at the same time maintaining essential Federal programs and encouraging needed education reforms. To make needed savings, we would eliminate some excessive funding increases over the 1986 level, curtail some Federal subsidies in student aid, phase out funding for vocational education, provide better targeting of Federal resources, and terminate other programs that have already carried out their legislated mission or, of marginal significance, where they duplicate other Federal programs.

PRIORITIES AND INITIATIVES

Just a few comments on priorities and initiatives. Chapter 1 of the Education Consolidation and Improvement Act is the largest and most important Federal program to aid the education of disadvantaged children. I think that the redeployment of Chapter 1 funds can be one of the most effective things we can do at the Federal level.

In 1988, I am seeking \$4.1 billion, an increase of \$200 million over the 1987 enacted level. Next month, we will propose legislation to increase the program's effectiveness based on sound research and common sense by strengthening State and local accountability for results, providing incentives for successful programs, targeting funds on children in schools in greatest need, encouraging innovative and effective practices, and furthering parental involvement.

Another high priority in our budget is programs for the handicapped. I regard this as an essential Federal responsibility that ought to have a high claim on available funds even when other programs must be reduced. Last year, Congress passed what we believe are uncalled for increases in appropriations, proposed new requirements and created new authorities that needlessly burden the States with new Federal requirements. In 1988, we are requesting \$2.99 billion, a decrease from the 1987 appropriations, indeed, but a substantial increase over the 1986 level.

For bilingual education, a matter of interest to many of you, I know, we are requesting \$143 million, the same as the amount appropriated for 1987 and an increase of nearly \$10 million over 1986. We will again propose to the Congress that schools be given greater flexibility to use whatever educational methods will best help their non-English speaking students learn English.

Public support for this position has grown dramatically in the past year. I fully expect the Congress to approve our bill to remove arbitrary restrictions on what is rightly a local decision.

During the past 2 years, I have spoken often about the problem of drug abuse in our schools and colleges, and several months ago we proposed a \$100 million Drug Free Schools Act. A similar bill, the Drug-Free Schools and Communities Act was subsequently passed by the Congress. That gave us \$200 million. But we only asked for a \$100 million for 1987, and we are asking for \$100 million again. That is all we need to get the job done. It matters much more what kinds of policies people decide to have at the local level, the school level, than how much Federal money is spent in terms of getting drugs out of our schools.

STUDENT AID

We are requesting \$4.5 billion for student aid. As in 1987, we will seek to concentrate Federal grant assistance on students in the greatest need, and to reduce or eliminate Federal student loan interest subsidies. The growth, the ready availability, and the predictability of these subsidies have, in my view, played a role in enabling—indeed, encouraging—colleges and universities to raise prices year after year by double the rate of inflation. We are also requesting a major expansion of and a major increase in our Income Contingent Loan program. We are seeking a total of \$600 million in 1988 to provide nearly 500,000 new loans, with substantially increased loan limits and more flexible repayment terms. I believe these ICLs represent the single greatest advance in student aid in over a decade. Expansion of this program is warranted.

Let me summarize our student aid programs and proposals since they have already been much commented on. Under our aid proposals, access to higher education will be fully preserved. If a student was eligible for aid before, he will probably still be eligible. The form of aid may change from grant to loan or from one kind of loan to another kind of loan, but the aid will be there. But the person who benefits should pay the cost, at least the large part of the cost, and so we will continue this shift in emphasis from grants to loans.

Now, this shift from grants to loans has not, caused college enrollments to decline. In fact, enrollments are increasing. Although loan burden has not deterred students from going to college, the inflexibility of current loan programs should be changed so that the burden is more manageable. An expanded ICL program will create a more flexible and less burdensome repayment system than now exists.

Historically, black colleges and universities have been one of the President's highest education priorities, and in 1988, I am requesting \$50.7 million to help these schools build endowments and strengthen their academic programs. I am also proposing \$5 million for the Minority Institutions Science Improvement Program, and over \$170 million for Howard University.

Teaching basic academic and literacy skills is essential at all levels and is stressed throughout our 1988 budget. In addition to asking the Congress to increase funds for chapter 1, which provides remedial instruction to school-age children, we are requesting \$130 million for adult education programs, the highest level of funding

ever for this program and more than 20 percent higher than the 1987 appropriation.

TEACHER TRAINING FUNDS

In order to improve the overall quality of teaching in American schools, we will again propose to the Congress the Christa McAuliffe Teacher Training and Improvement Act with funding of \$80 million in 1988. This broad-based, flexible authority will provide funds to improve the subject knowledge and skills of teachers and administrators in all fields. It will also support programs to attract, retain, and retrain the high quality teachers we need to give our children the best education possible.

As you know, the excellent report of the National Governors Association, "Time For Results," called for a number of changes in the way we train, certify and reward teachers. Other recent reports, such as that of the Carnegie Foundation, have made similar recommendations. Our Christa McAuliffe Teacher Training and Improvement Act will be an important vehicle for initiating these much needed reforms.

Chapter 2 of the Education Consolidation and Improvement Act, the Education Block Grant Program, has been a useful and popular resource for education improvements at the State and local level. Various statutory restrictions, however, have prevented our Chapter 2 funds from playing a major role in the education reform movement. For 1988, we are requesting \$529 million for Chapter 2. We will also, as part of our ECIA reauthorization proposals, ask the Congress to refocus Chapter 2 to permit it to become an engine for education reform.

If educators, school boards, State legislators and parents are to make wise and informed decisions, I think we all agree that they must have accurate, timely and usable data. I am again requesting \$70 million for the department's research and statistics activity. The gathering of statistics was the first function legislated to the Department of Education in 1867, the Office of Education, and it remains a core Federal responsibility.

In closing, let me repeat an earlier point. The Gramm-Rudman-Hollings budget targets must be met, and we have met them. The Congress must also meet them. Our choices are available for all to see, and I look forward to discussing them with the Congress.

MONEY FOR EDUCATION NO CURE-ALL

If I could just mention one other thing, Senator, Mr. Chairman, in light of your opening comments, the concern about educational expenditures for education in America, that topic is obviously a topic we are all interested in. But I would say as emphatically as I can, as a student of education, as someone who has been studying education in America intensively now for some time, above a certain level, additional money does not matter. What matters is how you spend it. It is the deployment of funds, not the expenditure level above a certain level. And we are above that level.

SPENDING FOR EDUCATION INCREASING

If we could look at that chart now, please, let us put in the context of federal budget reductions and general conversation about education in America, the fact is that total spending for education in this country is increasing. It has been increasing rather steadily in the years of this administration. If this committee were to accept every budget cut recommendation in our proposal, we still think—we are confident that education spending in America would go up between \$10 or \$15 billion.

We are not underinvesting in education in this society. We spend more of our GNP on education than do the Japanese. We simply do not get as good a result. The problem is not expenditure; the problem is how we deploy it. We are not an underfunded system. We are an inefficient system. And simply to throw more money at the system rather than to get it to be efficient at the generous level that education spending is already at would not be, I think, the wisest course to follow.

We need to get our system operating better. In terms of the expenditures, they will be there. Expenditures will go up anyway, no matter what we do at the Federal level, but we need to get the system operating more efficiently and effectively so Americans get more value for their education dollar.

Thank you.

Chairman CHILES. Thank you, sir.

Secretary BENNETT. May I introduce with me my Under Secretary Gary Bauer to my right, and to my left Deputy Under Secretary Bruce Carnes.

Chairman CHILES. Thank you.

Senator Conrad.

EDUCATION CUTS AND ECONOMIC COMPETITIVENESS

Senator CONRAD. Mr. Secretary, welcome to the committee. I want to say that I am surprised and a bit disappointed to see the chief spokesman for education supporting a substantial reduction for education. It seems to me that we have a critical problem of competitiveness, and that education is closely connected to it.

The trade deficits signal us that something is dramatically wrong with our ability to compete in the rest of the world. And one of the major factors is clearly our educational system.

You made the point that Japan does not spend as much money on a proportional basis as we do, but they have greater results. Part of that reason, clearly, is the different cultures that we have. But somehow we must become more competitive not only with the Japanese, but the rest of the world as well. Again, it seems to me education offers a major opportunity for us in that regard.

I am surprised and, as I said, disappointed that you are talking about major cuts, and I am wondering what it is that we are going to do as a society to become more competitive, to get better results from our educational system. How can we have a more effective educational system when the first thing we do is have substantial cuts in terms of our societal support?

Secretary BENNETT. We are not going to have substantial cuts in terms of societal support. If you accept every cut we have recommended, education spending will go up \$15 billion.

The question again, though, is not whether the money goes up or not; it is how we spend it.

I was in a school yesterday in the South Bronx that is a very good school. It is an elementary school in a very tough neighborhood. They are doing a very good job by their students. One could go not far from that school to another school where they are not doing a very good job, and I do not care how much money you throw at a school that is not doing a good job, that does not have good teachers or good principals, you are not going to get a good result. This is where we have to look at redeployment of our resources.

You are right about the Japanese in terms of cultural values in this sense, I think, Senator. It is a more homogeneous society; ours is a more heterogeneous society, which I think is the strength of American society. But if you look at the Japanese education ideals, they are, in effect, American ideals. They believe in a universal system of education, a system for everyone to reach high quality. They got some of the ideas for their educational system from Americans, from the American military after World War II. They are just realizing it in some ways more efficiently than we are.

I am not saying we should become Japanese. We cannot become Japanese. But they do teach some good lessons about the efficient expenditure of funds that we could well learn from.

Senator CONRAD. Just so there is no misunderstanding, from the Federal level we are talking about a major reduction in funding for education.

Secretary BENNETT. Yes, sir.

HOW TO IMPROVE EDUCATION SYSTEM

Senator CONRAD. What you are talking about is State and local efforts, but at the Federal level, which is what you are responsible for, and what we are responsible for, the fact is that this represents a major cut from what we did last year.

And, again, I just want to emphasize to you that it strikes me that we are in a very precarious situation. We have had a trade deficit go up sixfold; we have doubled the national debt over the last 6 years. I believe we are in a very precarious position as a nation and that we have got to take every step necessary. And I am somebody who is more committed to ending the deficit than perhaps anyone because this is one Senator who has made a commitment that I do not run again unless we get the deficit under control in 6 years.

But, again, it strikes me that to cut education, which I would identify as a key part of our competitiveness problem is quite misguided. I have been amazed to go home and find how schools have changed just since I was a student in high school in terms of the emphasis on writing, in terms of the hours that are being spent in school. It concerns me that the first thing we propose here and that you defend is a substantial cutback in education.

I am wondering what are we going to do to make progress. At the Federal level, what are we going to do that is going to improve this educational system?

Secretary BENNETT. We want our Federal programs to be a good deal more efficient than they have been in the past. That is why we proposed the changes in chapter 1 and bilingual education and some of the other proposals, so that that money will be spent more effectively and responsibly.

I have to say as well, Senator, that in the period of greatest expenditure at the Federal level in education, we saw the greatest declines in American achievement. It just does not correlate that Federal expenditures lead to great increases. It matters what happens locally and at the State level. It really matters what happens in that individual classroom.

If I could wave a wand and with that wand I could do one thing which could improve American education, and the choice was either increase Federal expenditures by \$20 billion or make sure that every child reads by the third grade and homework is increased by 20 percent, I would do the latter. That has a far more profound effect on whether children learn or not. If we could increase accountability in our system, it would have a far more profound effect than increasing expenditure.

But, again, if you want to increase expenditures in education, you do not have to do it at the Federal level because it is going to be increased anyway. It is going to be increased at the State and local level. The American people are not underinvesting.

Chairman CHILES. Senator Domenici.

Senator DOMENICI. I will reserve my questions.

Chairman CHILES. Senator Kassebaum.

Senator KASSEBAUM. Mr. Secretary, I think whether one would agree or disagree with all your ideas that we all owe you a real debt of gratitude for the intellectual vigor you have brought to a discussion of education.

Secretary BENNETT. Thank you.

VOCATIONAL EDUCATION CUTS

Senator KASSEBAUM. In my days as a school board member, I have been a strong supporter of vocational technical education. Now, that has largely been a matter of State responsibility in funding. But in your recommendation in this budget, you terminate all the vocational education moneys, some \$800 million.

What I would like to ask is, at this particular time when we have added or, I believe, recommended some \$900 million to the Department of Labor's budget for job retraining, why have we not some correlation here between the Education and Labor Departments in the importance of good vocational technical training?

Secretary BENNETT. Senator, let me explain this. The vocational education budget, the figure that we proposed, was one of the last matters we discussed in our deliberations with OMB. The zero request is truly a function of the need for budget reductions and of nothing else. It does not indicate any antipathy or philosophical opposition on my part to the idea of vocational education, but rather the recognition of the fact that, out of the dollars spent, the Feder-

al Government share is \$1 out of \$12 or \$1 out of \$13. We seek renewed attention to vocational education at the State and local level and, perhaps more significantly, from the private sector as an area where they are going to pitch in.

We thought this was an area, frankly, where we could make a reduction without damage to the cause and direction of vocational education because of the efforts at the other levels.

Senator KASSEBAUM. Well, I think for us today, particularly on the high school level and beyond, we are missing an opportunity to really work with the training of skill that we are going to, I think, recognize in the next decade. I think it is already something that has been missing to us, and I just hate to sort of blithely take it out of this budget without perhaps the opportunity to explore how the Labor Department plans to use their extra dollars for job retraining.

And I do not know if we have given enough thought to whether the States can, indeed, pick up this funding and expand it, as I believe they should, or whether it is something we ought to give greater consideration to working with them to see what sort of partnership, along with the private sector, could be enhanced by better coordination among all those who are concerned.

Secretary BENNETT. Fair enough. I think we would certainly welcome that discussion. Perhaps you and I and Secretary Brock could talk about that.

If I may, though, when you received it, it may have looked as if it was blithely done. It was not. We struggled long and hard with this budget. We got a target from OMB. We talked about that. And then we got a number of suggestions from OMB and others, and we talked about all of those. There was nothing blithe about the preparation of this budget. This was, as I said, a tough target that we were asked to hit. We think we have hit it as responsibly as we can. We would look forward to talking to you about that matter.

Senator KASSEBAUM. Thank you, Mr. Secretary. I would look forward to that.

COORDINATION AMONG DEPARTMENTS

Mr. BAUER. Senator, if I could add one point. Whatever the Congress decides to do with the vocational education budget request, I think it is worth pointing out that under Secretary Bennett's leadership, the Department has begun over the last couple years to talk regularly with the Department of Labor to get coordination between the two departments that I think was not there before. In fact, one of the first things the Secretary did upon taking over at the Department was to have a meeting with Secretary Brock to see if we can coordinate these programs, and I think that is a commitment regardless of what the budget level ends up being.

Senator KASSEBAUM. Thank you.

Chairman CHILES. Senator Fowler.

Senator FOWLER. Thank you, Mr. Chairman. Mr. Chairman, I would like to associate my remarks with the lady from Kansas and brag a little bit along the lines of the discussion this morning. In

Georgia, the State just passed a quality education program with a commitment to spend a billion dollars, a billion dollars over the next 3 years. That program has been praised by educators and people such as members of this committee who believe the key to our economic competition is our investment in education. And that is the finest investment we can make if we are serious about all these questions of inventiveness.

COMPENSATORY EDUCATION CERTIFICATES

I find it ironic that with so many States taking the initiative you call for, Mr. Secretary, that we have a diminution, seemingly, in our Federal investment when what you are calling for seems to have had its effect with States beginning to not only do their part, but to lead the Federal Government.

May I use this opportunity to clear up a few things about compensatory education certificates? This is the new word for vouchers; is that correct?

Secretary BENNETT. No; I do not think that would be accurate because it is a very different program, Senator.

Senator FOWLER. I was not being critical. I am being curious. There is a difference.

Secretary BENNETT. Well, the difference under our proposal in our reauthorization plan is that this would be something that the local education agency would be empowered to issue. It would not be a proposal from the Federal Government.

When we were talking before about the idea of a voucher coming from the Federal Government, that was a very different kind of fish than what we propose to do.

ELIGIBILITY FOR NEW PROGRAM

Senator FOWLER. Well, may I ask this: What kind of schools are going to be eligible to receive this new program? Will they be accredited?

Secretary BENNETT. Yes; it will need to be——

Senator FOWLER. Will it be required to meet certification and licensing requirements?

Secretary BENNETT. As I recall it, for a school to be eligible, it must meet a statutory definition, and that has five or six elements. I think both of the ones you mentioned are in that. I can certainly send you the full description.

Senator FOWLER. Would it be available for religious schools?

Secretary BENNETT. Sure. It would have to be because we cannot discriminate between religious schools, private schools and public schools. As you know, Congress wants Chapter 1 services to go to all eligible students.

Senator FOWLER. What kind of guarantees will there be in the law to ensure that compensatory education is provided in the private school?

Dr. CARNES. If I might, Senator, the proposal requires that in order for a compensatory education certificate to be used, an LEA must make that determination. It must decide that this is the way it wants to go.

Now, with respect to students in private schools——

Senator FOWLER. Those initials do not mean anything to a lot of us.

LOCAL AUTHORITY WOULD CONTROL PROGRAM

Dr. CARNES. I am sorry. Local Education Agency. It would be the local education agency, it would be the local superintendent and his office.

It would make the determination that in order to provide adequate services either for students in public schools or for students in private schools, under this program the local education agency would be enabled to offer this as one of a variety of means of providing those services.

What we are saying here is that if they want to provide the services in this fashion, the Federal Government is not going to say no. It is an option that they would have.

Now, in terms of measuring quality, the local education agency is responsible for assuring that equitable services are provided to both public and private school students. It is their responsibility to assure themselves through consultation with parents, with private schools or by other means that those—

Senator FOWLER. The parents are not allowed to request them, are they?

Dr. CARNES. The parents may request, but it is only upon the determination of the local education agency that they could, in fact, have a compensatory education certificate. It is a local decision.

In other words, this is not a certificate on demand.

Senator FOWLER. Would these things constitute Federal financial assistance invoking Civil Rights Act coverage under titles VI and IX?

Dr. CARNES. Yes.

Senator FOWLER. I understand that the administration's goals are parental involvement and certainly choice. If the parents are not allowed to request them, how do you see these things promoting choice and parental involvement?

Secretary BENNETT. Parents can request them and they can make their request to the local education agency, but the determination as to whether compensatory education certificates are issued or not will be made by the local education agency.

Somebody has to make this decision. One of the shifts that we have made in the reauthorization proposal, Senator, is to have this determination made by the local superintendent.

My guess is that if enough parents complain, in the real world if enough parents complain about the quality of Chapter 1 services that their kids are getting at a particular school, that superintendent—Mr. Crim, for example, in Atlanta—is likely to grant that request that parents be given those certificates so that they could send their child to another school.

I do not think any superintendent wants the heat of a large number of parents who are saying, look, our kids are supposed to be getting better in math and reading, and they are not.

So I think that is a way in which the kind of local pressure that can be brought to bear will be the most effective check.

Senator FOWLER. I am sorry; my time is up.

Chairman CHILES. Senator Symms.

Senator SYMMS. Thank you very much, Mr. Chairman.

Mr. Secretary, welcome to this committee. And I certainly, as one Senator, would like to compliment you on the leadership that you have demonstrated for this Nation with respect to education. I think our colleague from Wyoming, Senator Wallop, said it better than anyone when he made a statement one day that the worst thing he could think about William Bennett's job as Secretary of Education is that it makes him think kindly of having a Federal Department of Education.

I have to say that I think the leadership that you have given this country in terms of speaking out for traditional American values in our school system has been a great asset. I think further that this President has done a great deal, and I have seen it in my own State, to restore public consciousness of the importance of quality education in this country. Also I think your budget reflects the necessity for the traditional local and State funding of these educational institutions.

Now, of course, my State is like any other State. We have problems financially. We are in a depression. We have federally owned lands. We do not get enough money out of the timber sales and all those things. I will not bother you with that, but one thing that would help our schools in Idaho, if you can mention it to the Cabinet Council, would be to speak up for more common-sense use of the Government lands in the Western States, so we could get more revenue for our local school districts. We have counties in our State that are 90-percent owned by the Federal Government, and it puts us at a real disadvantage to finance those schools.

PARENTAL SUPPORT KEY TO GOOD EDUCATION

But I really want to compliment you on one thing and I think that is the thrust of your statement, when you talk about deployment. You are talking, I assume, about the importance of deployment of funds so that we have discipline in the schools and that means parental support for the school teachers and the principals so that they can actually have educational discipline in the school system. Is that correct?

Secretary BENNETT. That is right. Very important.

Senator SYMMS. In other words, it starts at the home to have a good quality education. And when you say the Japanese are spending less money but getting higher results, is that part of the reason? Is it more time spent by children at home with their parents, or what is it?

Secretary BENNETT. Even more specific than home, Senator; it is home with Mama. The Japanese mother is probably the dominant and critical education figure in Japan. In the Japanese study that we did, they pointed out that when a Japanese child is sick and not able to go to school, often his mother will go to class and sit in his chair and take notes for him.

Japanese mothers, early on in the child's development, will buy a variety of toys, books and other things aimed at helping the child learn. The parents, both parents are very supportive, but the way

the Japanese have decided is to give this role to "Keelkomana," "Education Mama." And she takes the role very seriously, indeed.

DRUG-FREE SCHOOLS ACT

Senator SYMMS. Well, I thank you very much for that point. I discovered in my own State that where we have small communities with a great deal of interest on the part of the families in the communities within the local school district, we have very good schools. We have very fine schools. We do have a few areas, even in a rural State like Idaho, where we have an increasing drug problem—which is a great concern to me, and I noticed in your testimony that you said you spoke of problems of abuse in our colleges, and several months ago proposed a \$100 million Drug-Free Schools Act. How do you conceive that will work, and what can we do to help fight this drug problem in the schools from a Federal level?

Secretary BENNETT. Well, there are a couple things that could be done. One, I will be meeting I think next week with representatives of the Governors and chief State school officers, to talk to them about the distribution of these funds to the States and to the schools for the effort of getting drugs out of schools.

"SCHOOLS WITHOUT DRUGS" TOP GOVERNMENT PUBLICATION

The most important thing, of course, that has to occur is that the responsible adults in the place, whether we are talking about the home or the school, have to decide that they have a very low, if any, tolerance for drug use.

If you want to get drugs out of school, you should do what they have done at Anne Arundel County, MD, or in Chandler, AZ, or any number of places I could cite, which is to say we are not going to tolerate drug use here. We have distributed more than a million copies of our book, "Schools Without Drugs," which builds on the successful experience of schools in fighting this problem. And I should maybe point this out, this may become the most popular Government publication ever. We are closing fast on the car book, which was "The Federal Government's Guide to Safe Automobiles." "Schools Without Drugs" may pass that. It is really rather straightforward. People have to be responsible and have to lay down clear rules and policies.

DRUG PUSHERS HAPPY WITH SCHOOL ADMINISTRATORS

I think the Senate of the United States could continue efforts in other directions. Since you asked for advice, I will offer you some. If Senators here could write to every college president in their State, saying why do you not adopt some clear rules about drug use and enforce them and take them seriously, I think that would be a great thing. Because, frankly, I still think this is a very serious problem on America's campuses, and I noted the other day in a series of articles I was reading from a campus magazine that drug pushers on certain campuses agree with me. They are happy, as one drug pusher put it, that the administration of that college does not see eye to eye with the Reagan administration, because he said that is going to make business better for him.

But I think that higher education here needs to lead, as it leads in so many other areas, in terms of eliminating drug use.

Senator SYMMS. Thank you very much. Thank you, Mr. Chairman.

Chairman CHILES. Thank you, sir.

Senator Sanford.

Senator SANFORD. Well, Mr. Secretary, I am delighted to have an opportunity to greet you and welcome you to this committee.

Senator DANFORTH. Could you speak more directly into your microphone, Senator? I want to hear this. [Laughter.]

Senator SANFORD. Well, I am about as close as I can get to it.

SOCIETY BENEFICIARY OF HIGHER EDUCATION

You gave us the impression that OMB made you do it, and that you could have come in with a different budget. I am just sorry that the Secretary, in saying that he has got to cut all of these things, does not shed a little tear instead of saying that this is probably the best thing for education. Because it seems to me that you and I, long associated with the Research Triangle in North Carolina, ought to know very well that investment in education does, indeed, pay off, does, indeed, pay off for the community. And as you know, North Carolina ranks almost at the top in the amount of money invested in higher education, and I think we can see that in our favorable unemployment rate and our booming regions.

You have been quoted as saying, and maybe you will reiterate it, but I hope I do not hear it from your own lips. "There is as much access as there ever was, but you are the beneficiary and you are going to have to pay for it." Well, do you not think society is the beneficiary of higher education?

Secretary BENNETT. Sure, and society should pay part of it and you should pay part of it. Society is the general beneficiary, but there is a more specific beneficiary, too, and that is the individual.

Senator SANFORD. Well, I think—

Secretary BENNETT. People when they decide to go to college, I do not think most people, frankly—I do not think this is an unkind thing to say about human nature. I do not think most people say I am going to go on to college because it will be a great benefit to society if I do. I think most people say I am going to go on to college because it will help me get a better job and do well—

Senator SANFORD. Well, a great many people do not go because they simply think the door is closed to them. And I think we have seen very clearly that young people do aspire to go to college because this great federal program now, for a number of years, has literally opened the door. Access is there in the sense that the college is there, but not access to the individual unless the means to attend is also there.

And people tell me, and I have seen it firsthand, that even ninth-graders, eighth- and ninth-graders, work a little harder with an ambition to go to college when the background they are from would not otherwise encourage them to go. I think this has been one of the great programs in America, and I just do not want to see us in any way diminish it.

Chairman CHILES. Senator, I think you are just so right. As we remember in the 1940's, we had about 6 percent of our people that went to college. Fortunately, we had something called a GI bill that started after that. With that and the Pell grants and other college grant programs that have come after that, we are now looking at roughly 25 percent of our people.

Senator SANFORD. Well, absolutely. And I just want to make that point just to have it made.

TEACHERS PATH TO QUALITY EDUCATION

Let me ask you another thing, or suggest another thing. Of course, education spending is going up, but I would not want to sit here and admit that it is going up enough. I think almost every governor in America now has taken a great interest in education. Twenty years ago, probably a half a dozen thought this was the number one priority, but we are now seeing many more Governors take a major interest in schools and colleges.

But it seems to me that we ought not to say that it is adequately funded, and you mentioned that you wish you had a wand that you could wave and improve education. I have got a wand to suggest, as Secretary, as the chief spokesman, as the person that has the forum, I would like to see the Secretary of Education of the United States waving a wand that says we do not pay or treat teachers as professionals. I do not think we are ever going to improve until teacher salaries go way up and we start attracting young people and professionals. And I would hope that would be the magic wand that you could wave because that is my opinion of the true path to quality education in America.

INCOME-CONTINGENT LOAN

I want to ask you one other thing. I am very much interested that you have carried forward what I assume partially came from your former colleague at Boston, the income-contingent loan. Could you tell us just a little bit about how that would work? I think that is a very promising thing.

Secretary BENNETT. Thank you, Senator, Governor, Mr. President. [Laughter.]

You were, indeed, one of those governors back then talking about education, and if you are not going to give yourself credit for it, I will. You were one of the reasons that North Carolina, I think, has had such great success because of your emphasis on education as a governor.

DOOR NOT CLOSED TO HIGHER ED

Let me comment. I am concerned about the perception among some people that the door is closed to higher education, but this administration has not been saying that. It has been some of the Chicken Little organizations in this town that have been running around saying the Reagans are coming, the Reagans are coming; nobody is going to be able to go to college.

Well, it turns out a few students heard that and thought it was true and thought maybe they could not go to college. So I have been interested in seeing that some of the higher education groups

are now mounting a counter-effort to point out that money is available and that you can go to college and that access is there.

But, in overall numbers, I would point out again, Senator, that we have seen in the last 6 years an increase in the number of people going on to college. So the general perception out there is that college is available, and that is something increasingly believed by American students.

I did not come in, Senator, with this budget and say this is great news. I did not come in crying, either. I said this was the best budget under current circumstances. The budgets are not platonic forms. They are things drawn up in the light of facts and circumstances. One of the facts and circumstances that is before us is the deficit, and a very serious deficit.

Were conditions different, I would be before you with a different budget. This job might be more fun in some ways if we had a surplus. I would not mind the President saying, "Bill, we got an extra billion dollars here at OMB. Why don't you suggest some programs?" That might be fun to figure out what might be done. But that is not the way the world is.

TEACHER TRAINING BILL

In terms of teachers, I agree with you about the need to talk more and do more about the professionalization of our teaching force. I think we have been doing a fair amount about that. We think our Christa McAuliffe teacher training and improvement bill, in terms of a specific piece of legislation, is a good idea. But more than that, I think we have been part of the national discussion about the need for improving the quality of our teaching force. And this is beginning to bear some fruit.

I was very interested to see, and I am sure you saw, Senator, the increase, the rise in the number of college freshmen stating an interest in the teaching profession. This now is the third or fourth year in a row where we have seen an increase.

The national conversation about education itself, I think, bears fruit in terms of attracting people's interest, plus governors, as you said, are committed to it. Teacher compensation has been increasing dramatically over inflation the last 4 or 5 years, and there is a sense that the teaching profession is going to be a more interesting one because of changes.

These are all things that we encourage, and we think our legislation is a positive contribution.

Chairman CHILES. Mr. Secretary, you point to a lot of positive signs. I just wonder whether the administration gets the credit for the SAT scores or more kids in college, or perhaps the Congress, because we did not make some of those drastic cuts that you tried to have us make.

Secretary BENNETT. Neither of us, the American people, and particularly the students who took the test.

Chairman CHILES. Senator Danforth.

TAX BILL TO HAVE BIG EFFECT ON HIGHER ED

Senator DANFORTH. Mr. Secretary, I want to focus my comments on higher education.

I think that your position is absolutely wrong, and I want to tell you why. You say in your testimony that we shouldn't be so concerned about cutting Federal spending for education by \$5.5 billion because the money is going to be coming from somewhere else. Let everybody else fill in the gap.

But I wonder if you have factored into your considerations what we did to higher education in the tax bill. That tax bill is going to have a devastating effect on higher education in this country in a number of different ways. For the first time, we are going to be taxing scholarships and fellowships. By taxing scholarships and fellowships, we are going to raise a half a billion dollars over the 5 years. Interest on student loans is not going to be deductible any more.

Your program, as I understand it, would markedly shift Federal help for students from the Pell Grants to guaranteed student loans and make students pay deferred interest after they graduate on loans received while they were students. Because interest payments are no longer deductible, the financial burden on students would significantly increase.

With respect to educational institutions, the reduction in tax rates may effect a decrease in the level of private support. While the argument for reducing rates is apparent, it is clear that any time rates are reduced, contributions to nonprofit organizations are going to go down and the universities and colleges of this country are going to experience a reduction in gifts for that reason. Gifts of appreciated property are going to be taxed under the alternative minimum tax under the tax bill.

Finally, we have imposed an institutional cap on what some of our major research universities—Duke included, I might say to the Senator from North Carolina—an institutional cap on the amount of tax-exempt bonds they may issue.

All of these changes in the tax law were done to hit higher education. Now, in addition to the negative effects the tax bill will have on higher education, you submit a budget to us which again hits at higher education. And I think you must concede that these measures are not justified.

HIGH ED IN GOOD FINANCIAL SHAPE

Secretary BENNETT. Well, let me make a couple of general comments, Senator, and then ask the Deputy Under Secretary to respond specifically.

One might get the impression from listening to what you are saying that higher education is in terrible financial jeopardy. It is not. The condition of higher education, the financial condition of higher education is quite good. Nothing has been as good for the condition of higher education, particularly private higher education, than the economic recovery. It has been extraordinarily good for higher education.

Higher education is a growth industry. We have more institutions of higher education in 1987 than we had in 1985, than we had in 1980, than we had in 1975. And the increase is substantial.

I talked to people in higher education during the time of the debate on tax reform. And they said all these terrible things were

going to happen to them. They always say all these terrible things are going to happen to them any time something comes down the road. Often these terrible things do not happen. But I said to them, "It might, arguably it might, some of these provisions might limit some of the income you will be taking in. But, overall, tax reform is good for the American people. And you might think about that sometime too."

Well, they went ahead, and I guess they were about as active as any group in opposing these tax reform measures, and I don't think frankly that is much to their credit, that they did that. I think they were thinking mainly of themselves first, and I wasn't impressed.

Senator DANFORTH. What do you want them to do, just sort of crawl into a hole?

HIGHER ED NOT HONEST

Secretary BENNETT. Yes; I want them to act like people who stand for the ideals they state in their catalogues, and that doesn't mean self-interest first especially when their condition is pretty good.

Second, I think if somebody is a graduate student in laser physics or even philosophy, as I was, getting \$10,000, I am sorry, but I can't think of the principal argument why that person should not be taxed, when the guy who didn't go to college, who is not a graduate student, and drives a cab and makes \$15,000, and has a kid or two kids, why he is taxed. I just don't see the reason for making a principal distinction there.

Maybe Dr. Carnes would comment.

NEW TAX DEDUCTIONS AND EXEMPTIONS

Dr. CARNES. Just with respect to a couple of provisions of the tax bill.

In point of fact, the portion of scholarships and fellowships that is used to pay for tuition and related fees are tax deductible. They are not taxable. Additional unearned income from fellowships is taxable, but is offset by a tripling or quadrupling of the personal exemption. Charitable contributions can still be deducted, although gifts, you are correct, gifts of appreciated property are taxed, but they are taxed at a favorable rate.

Beyond that, although the interest on individual loans is not deductible, interest on home equity loans is deductible. If a parent, for instance, wants to take out such a loan to finance his child's education—

Senator DANFORTH. That's nice for high income families that own expensive houses. But how about the little guy? How about the person who is in rental property?

Dr. CARNES. Let's take the case of the person who is being asked to pay the interest on a loan. This person may be asked by our proposals to pay on the average, interest that will amount to \$138. In return, he earns \$650,000 more over his lifetime for making that investment, than if he did not do so. I do not think people are going to say I can't afford that \$138, I am not going to go to college, I am going to forgo that \$650,000.

When you offset this fee, the amount that you earn by what the interest charge is, there is no question that it is the best investment anybody can make.

Senator DANFORTH. Mr. Chairman, if I may just make one comment. I think that the combination of the net effect of the tax bill and these budget proposals will be to say to people who are in college and in universities—you had better go into something that is high paying when you graduate. Don't go into teaching, don't go to graduate school to teach. Go into something that is going to make you a lot of money, go to Wall Street, go to investment banking, use Ivan Boesky as your model, but don't go into education.

Secretary BENNETT. I think that has been pretty well discredited.

Again I think the determination whether one goes to college or not is based on a lot of considerations.

DURING SHIFT FROM GRANTS TO LOANS ENROLLMENT INCREASED

I am concerned, I think everybody is concerned about how we finance. But the question whether to loan is a burden, and how much of a burden it is, I think, in part, Senator, is answered by what kind of loan it is and how you pay it back.

I would note again that in this period where we have seen a fairly substantial shift from grants to loans, we have not seen a decreased number of people going on to higher education, we have seen an increase. And we have not seen a decrease in the number of people going into professions that we think are important, though they may not pay very much, like teaching. We have seen an increase.

Now, I think that if we had something like the income contingent loan program, where the repayments are quite modest and over time, that this would even add to that effort, I hope. I realize that there is a strong disagreement here with us on a number of our provisions, a number of our recommendations, but I do hope the committee will take a serious look at this Income Contingent Loan Program.

CAN'T TAKE EDUCATION PROPOSAL SERIOUS

Chairman CHILES. Mr. Secretary, I think the committee would be taking it seriously and looking at it seriously if we weren't looking at a 30-percent cut in education.

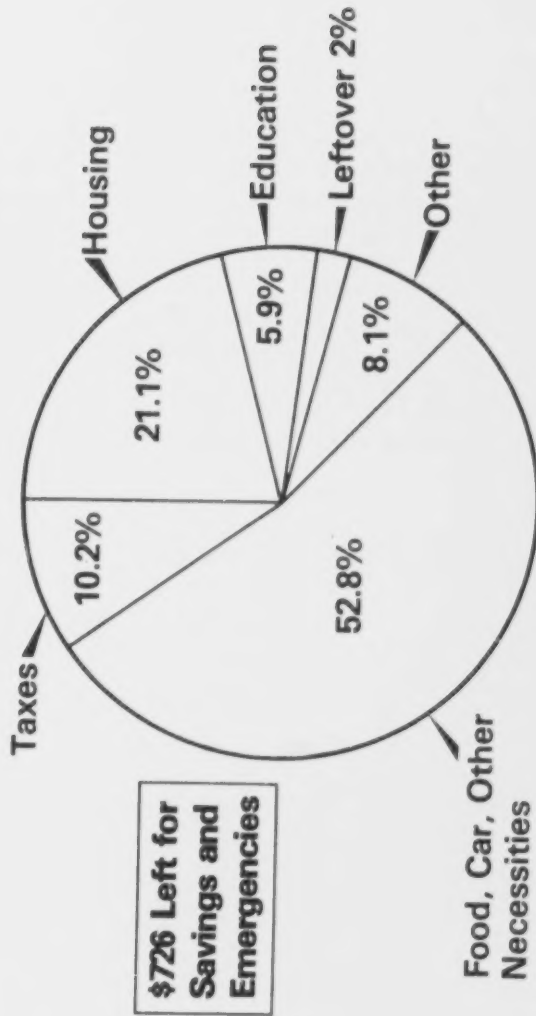
I just have to remember the first education event I got involved in was when I was a member of the State legislature and the then speaker convinced me to vote for a merit teacher pay plan. I thought it made sense. I still think merit pay makes sense. But I didn't understand at the time I voted that he had put that up in lieu of paying any increase in teacher salaries that year. And the teachers were not making a living or a minimum wage in the State to start with. It was to be in lieu of that, and it took a teacher meeting in which a few tomatoes were thrown and other things before I began to get the message.

I am still for merit pay for teachers. But I think you talk about that after you decide whether you are going to start off and pay anything reasonable. I don't think you use it as an excuse. The committee wants to know is this serious on the part of the adminis-

tration, or is this a Trojan horse marched in here as a way to cut Pell grants, college aid, student loans and others.

If you look at the chart up here, it illustrates a basically average expenditure of a family of four with college age kids, with an income of about \$36,000. Housing takes 21 percent of it; essentials 52.8 percent—that is food, transportation, health care and clothing—the education contribution is now 5.9 percent. That is an average of those with kids in college, and other personal care of reading, entertainment, all of that is 8.1 percent. What is left is about 2 percent. And now we are talking about taking that education up to 15 percent of income to go for a loan. If we compare that with social security tax, we get 7.15 percent, going to 7.51 percent in 1988. But the total contribution, all pension and life insurance, with that is 9.3 percent. Yet now we are talking about a level of 15 percent.

Average Expenditures: Family of Four with College Age Children



Income: \$36,302

I think you are finding from both sides of the table here that just doesn't sound realistic to us. We cannot say that is a serious proposition. If you are going to put this on top of what is there and say we are going to need to send more to school, some of them need to borrow more than there is there from Pell grants and all, then I think you might have a serious audience listening to you here as we saw so many go into the program last year.

But when you say this is in lieu of, you don't get much attention.

Secretary BENNETT. You mean if you thought the Income Contingent Loan Program was a good idea, but you didn't like our other ideas, you would say the heck with pursuing a good idea because I didn't like the other bad idea?

Chairman CHILES. No, sir.

Secretary BENNETT. OK.

Chairman CHILES. You are just trying to turn things around.

Secretary BENNETT. No; a good idea is a good idea.

Chairman CHILES. I am saying if you are serious about it, don't send it up here packaged in a way that you can do away with all these other monies in Pell grants and these other programs.

INCOME CONTINGENT LOAN NOT BURDENSOME

Dr. CARNES. Mr. Chairman, if I could just clarify one point on that contribution rate, which I think is the important point to get clear.

The contribution rate of 15 percent is not going to be an interest rate that family is going to pay on that loan. What our proposal in income contingent loan says is that no student would ever have to pay more after he graduated from college and got a job, he would never have to pay more back than an absolute ceiling of 15 percent of his income.

Now, that will take into account his particular family circumstances. That will be adjusted for in the repayment scale. At the beginning of his career, the first couple of years, he will only make a \$30 payment a month. Then as he begins to move up the income he has an option of stretching out those payments but he will never incur what we would consider to be an unreasonable burden, and the burden that he will incur will be graduated, based on his family circumstances, his needs, if you will.

We are not suggesting a shift in what you see there from 5 percent to 15 percent. That is not our proposal.

Chairman CHILES. Senator Lautenberg.

Senator LAUTENBERG. Thank you, Mr. Chairman.

Mr. Secretary, I think you are beginning to get the gist of our position here. We are giving you less than enthusiastic support for this proposal. And, of course, I include myself in that.

One of the proudest achievements of the 99th Congress was the support given to education, \$19 billion, an excellent investment of Federal dollars. And now we are talking about a cut of nearly 30 percent. I think that represents a sadly misplaced priority. And I was struck by your comments and your closing comment about meeting Gramm-Rudman targets in particular.

You are, after all, a professional educator, and we salute that excellence that you bring to this task. But you close with Gramm-Rudman and in closing we see the most important point.

OTHER SOURCES SHOULD HELP BEAR EDUCATION CUTS

Let me make a point at the outset and say that Gramm-Rudman-Hollings budget targets must be met, and we have met them for 1987. I don't know whether that is a source of great pride for you. But I wonder whether or not there are not other departments in government that ought to pick up some greater share of that slack and meet the budget target. Because what we do today may not be quite as obvious a defect as we will see in years ahead when the United States will continue to fall back in terms of its leadership economically and politically, if education receives less support.

THROWING IN MONEY NOT THE ANSWER

And I am further concerned when you say that throwing more money at the problem is not going to solve it. The reverse of that, of course, suggests that maybe throwing less money at it is going to solve the problem. And since you just visited the Bronx, I wonder whether you are aware of Mr. Eugene Lang's special project with the school that he attended. He has promised to pay for a college education for each student who stays in school and graduates. You can see not only the scholastic achievements but the behavioral change that came in as a result of focusing on the student and giving them the view that they had an opportunity to do something besides fall out of step with all of society. And it just does not square, Mr. Secretary. You say the right things about education, but when I see your enthusiastic support for these incredible cuts, frankly I think that we are hearing a terribly mixed message, that I don't see as being salable in this committee.

Secretary BENNETT. Well, I think pride or great enthusiasm about the budget request would not be the way I would describe it. I would say that what I have done, I think, has met my responsibility, and tried to do so in a way that would not be injurious to the cause of American education. And I feel quite comfortable in saying that.

I don't suggest that by throwing less money at the problem, education will get better. What I am suggesting is that even if Federal expenditures are lowered, we will still see an increase in educational expenditures. And, look, you know, I may be the only one here—no, that is obviously not true. Everybody here knows we have a serious deficit.

You folks voted for Gramm-Rudman for some reason, or some people voted for Gramm-Rudman for some reason.

Senator EXON. Some of us did not.

Senator LAUTENBERG. Two of us did not.

Secretary BENNETT. Right. But there is either a serious issue here or there is not. There is a serious issue here about deficits and we have to meet it. We have a target. I don't have the option of saying, well, I don't particularly like this idea of Gramm-Rudman. I am going to propose \$40 billion and get a few honorary degrees. I

don't really have that option. I have the option of meeting my target.

Now, if you are asking me were we deliriously happy about \$14 billion, of course we weren't deliriously happy. Reality sometimes is not a cause for giggling but it is an occasion for meeting one's responsibility. And I think we have done it.

MONEY NOT THE IMPORTANT THING

Again, I do not think it is a matter of spending more or spending less, because we are going to be spending more anyway. It is how we spend it. And, yes, I am very familiar with the experience of Gene Lang. And I have had breakfast and lunch with him on a couple of occasions. He picked up the tab once, I picked up the tab once. And I am very encouraged.

The thing that Lang will say is that he said, you know, the more I study this program, the more I see that the money is not so important—and this is Lang himself—so much as the involvement with the students, giving them the aspiration. Because I asked him. It was very interesting, Senator, to me to see that his offer of \$20,000 or \$30,000 or \$40,000 spread out over 20 or 30 kids has a way of motivating that our \$4 billion in grants and loans doesn't motivate. The difference is that Eugene Lang is an individual human being who goes into a school, who learns the kids' names, they learn his name, they come down to his office, and that kind of personal touch, personal involvement, that big brother approach, true big brother approach really still makes the human difference in a way that a Federal program, no matter how much good it does, simply cannot have that personal immediacy that a Lang has.

Senator LAUTENBERG. Well, maybe we ought to try to shape our programs somewhat differently. Certainly we have or should have the expertise in the Department of Education to provide guidance to communities.

Secretary BENNETT. We do.

Senator LAUTENBERG. And I am not sure that I hear you saying that. I see the focus again starting with the responsibility to Gramm-Rudman.

I want to talk about a couple of parts of this, but I am not going to be allowed to. [Laughter.]

Chairman CHILES. Senator Domenici.

Senator DOMENICI. Senator Nickles, I have been kind of waiving my questions, but I think since I might have to leave here shortly, and one of you will have to take my place, I would like to go now for 5 minutes if I might.

Mr. Secretary, let me make it eminently clear to you. As I said in my opening remarks, I was one who voted for the creation of the Department of Education. I think I made the point to you that I assumed that, from time to time, we would have a need for somebody who could talk about education at the national level and the problems that are there.

And aside from this budget, which we are going to talk about at length around this place, I compliment you for what you are doing in the field of education. I think you know that. I am not so sure you got it in my opening remarks, and I want to say it again.

EDUCATION CUT TOO BIG PROPORTIONALLY

I really believe we need to have stimulation and new ideas out there. You are doing that. Now, having said that, let me tell you that I am concerned. I am concerned because Gramm-Rudman-Hollings is a fiscal policy mechanism that this Senator supports. But I don't necessarily believe that Mr. Miller, whom I have great respect for, ought to sit around, and, in this national budget, end up saying to you, after debate and the consideration of issues, you have got to take this big a whack in education.

It is inconceivable to me that he, you, and our President really expected that, out of about \$19 billion that we will reduce from the current services level, that \$5.5 billion would come out of education. I don't know where they found that kind of number. That is enormous. Out of almost \$200 billion in discretionary programs, a 5.5 billion cut from the Department of Education is a big chunk. That is why I am kind of tough. This is not really a credible approach. Let me ask if you would do me two favors.

EXPLANATION OF CUTS

It appears to me that about 70 percent of the savings that you are recommending come at the college level. That may be off, but that is not off very much. And basically, of that amount, almost all of it comes from student loans and some kind of reform—I should say reform in student loans—and some kind of reform in Pell grants. And then, as I understand it, additional savings come from terminating some campus based student aid programs.

I don't think we are going to have time to hear about all of these proposals because we are going to run out of time shortly. But we have been talking about this budget without this committee, at least from this Senator's standpoint, getting a quick analysis of those three things.

Would you give us right now what it is you are recommending with reference to student loans, how we are going to save all of that money, what you are going to do to the Pell grants program that saves money, and what are the other campus based student aid reductions that you have in mind?

Secretary BENNETT. I think Dr. Carnes could do it more quickly.

Dr. CARNES. Senator, you are right. In a rough calculation, three-fourths of the reduction is being proposed at the higher educational level. The \$3.7 billion, in other words, would be reduced at the higher educational level.

Of that sum, approximately \$650 to \$800 million is because of the pricing effects of the Treasury bill rate. It is not a cost that is passed on to anyone. It is simply a reduction in pricing because of decline in the T-bill rate starting in the last half of 1986, carried into 1987, and carried into 1988. So a lot of it has to do with that.

Senator DOMENICI. All right. Now, so people listening will understand, what you are saying is that the Treasury bill rate is an interest rate on Federal obligations. The Federal Government goes out there and borrows and pays that interest rate. This rate is going to be lower. Therefore, the cost of the program will be \$600 million lower, since the special allowance subsidy paid to lenders is based on the Treasury bill rate.

Dr. CARNES. At least \$600 million lower, or it could be \$800 million lower.

In addition, we are proposing a change in the way the interest is handled on a guaranteed student loan. The Federal Government would still pay the special allowance to the banks for carrying the loans; the student would pay the interest on the loan at the T-bill rate. That would generate savings in 1988 of approximately \$500 million.

In addition, there would be \$375 million in savings in the guaranteed loan program made up of guarantee fees to cover default costs. Right now, the default costs are running \$1.3 billion a year in that program. The taxpayer has to pay it. We want to charge an insurance fee to help offset those default costs. That would bring down the amount of money under this entitlement program the taxpayer would have to pay.

In addition, there would be some policy changes resulting from the fact that we would increase lender risk in this program. Lenders would be insured at 90 percent rather than 100 percent. Their reinsurance rates for guarantee agencies would be slightly lowered.

What we want to do is encourage these lenders to exert more effort to try to collect the loans with 100 percent insurance right now that is difficult. We just want to provide more incentives for them to do that.

The campus-based aid, SEOG and College Work-Study programs would be eliminated, and that is about \$880-\$900 million in those two campus-based programs.

We are proposing no new capital for the National Direct Student Loan program. What we are proposing is \$600 million in new capital plus access to the NDSL revolving fund to finance the Income Contingent Loan program.

Although there are these reductions, I think the point that we would want to insist on is that we are committed to ensuring that everybody who wants to go to college and can get in will have access to a means of financing their educational costs, and it will be provided by the Federal Government.

WHO SHOULD PAY FOR EDUCATION

But the real public policy question is who should pay? Now, the American taxpayer will still pay a lot because there is going to be \$2 billion in grants, there is going to be a billion dollars going to the banks. There is going to be a guarantee on the loans plus State agencies will be involved as well. Right now one out of every four students gets a Pell grant. Our proposal would mean one out of six students would get a Pell grant. That is a very generous grant program. And the average grant would go up.

Senator DOMENICI. Mr. Chairman, I just want to ask the Secretary.

WHY SUCH A CUT IN EDUCATION

Mr. Secretary, as you proceeded through the budget debates with the administration and the President and Jim Miller, did you have an opportunity to argue for less reductions in education on the basis that perhaps some other parts of Government ought to take

more of a cut than education, or was your effort isolated to an assigned amount to you?

Secretary BENNETT. Well, it wasn't said ahead of time that I couldn't make such suggestions, but I guess it would be fair to say it is not my style to do that.

We were given a mark. We did not appeal the mark. We met it because I felt that we could meet it and meet it responsibly.

One thing that I think that is worth noting, Senator, you said why so much out of education, if there is \$19 billion in needs, why \$5 billion out of education?

I think one of the reasons is if you can compare our request level in 1987 to our appropriation level, you will see a higher amount over request in appropriation than you will for just about any other department. So one of the reasons that we keep coming back and saying, look, we think the cuts need to be substantial is that not only are our requests in preceding years not met by the Congress, they are far exceeded by the Congress.

Senator DOMENICI. Thank you, Mr. Chairman.

THRUST OF LAW TO REQUIRE RATIONAL CUTS

Chairman CHILES. One of the thrusts of Gramm-Rudman-Hollings, as I understand it, was to force Congress and the administration to make some rational decisions, make some rational cuts and set priorities. If we didn't do that, we would have these across-the-board cuts which are mindless and nobody wants.

The administration says they met their targets. We dispute some of the figures. But the administration has set its priorities and those priorities are that education should take a 30-percent cut. I think it lays out exactly where the administration thinks its priority should be.

Senator SASSER.

Senator SASSER. Thank you, Mr. Chairman.

EDUCATION BUDGET A CHARADE

I welcome you here this morning, Mr. Secretary, and I must disagree with one of the statements that was made here earlier. Frankly, I don't mean to get you into difficulty with the fellows over at OMB or the White House, but I do not detect much enthusiasm on your part for these cuts in the education budget. And I note in your opening statement that you make what I perceive to be a telling comment: "Under different circumstances, I would be standing before you with a different budget."

Now, I think what we are really going through in this exercise is somewhat of a charade. For a number of years now, and we all know this, there has been a growing concern on the part of the American public and responsible officials about the crisis in American education. The willingness, indeed, the necessity to do something about the education of our citizens has reached a critical mass. For a number of years, Governors and others have been putting it on the line and going to the citizens of their State and asking for additional taxes to meet the problems in education. And here when the Federal Government comes in and indicates it is going to seek a substantial reduction in the Federal commitment to

education, why I think those who prepare these figures know full well that the Congress is not going to accept them.

And you have indicated, Mr. Secretary, that in previous years the Congress has actually exceeded your expectations, or the requests of your department. So, it is really, I think, a charade in which some at OMB and some in the administration can go back and say, well, we have done our bit to meet the Gramm-Rudman-Hollings requirements and if those in the Congress had just taken our recommendations, why we would have met our obligation.

Unfortunately, and unhappily, yesterday the Secretary of Defense, Mr. Weinberger, did not seem to be as attentive to meeting the Gramm-Rudman-Hollings requirements with the Department of Defense budget as those of you are in the Department of Education.

WHY BUDGET UNACCEPTABLE

Well, why are we not going to accept these numbers? Let me give you an idea.

I have talked to educators in my native State of Tennessee, and they tell me that the proposals that are being advanced here in your budget would result in nearly 2,000 students in the University of Tennessee system being denied Pell grants in the next fiscal year. And these same proposals that are being advanced here today could mean that up to 3,000 students at the University of Tennessee might not be able to participate in the guaranteed student loans program.

So, given this scenario, Mr. Secretary, I cannot believe that we are really serious about all of this and, frankly, I can sympathize with what I detect as a lack of enthusiasm on your part.

LIBRARY SERVICES CUT

Let me follow on and just say this. For 6 years in a row now, the administration has included in its budget a proposal to zero out funding for library services and library construction. Of course, this comes at a time of widespread publicity about the problem of illiteracy in this country. Functional illiteracy in this country is a national disgrace, one I think we all want to rectify.

But at a time when the rural areas of this country, and I come from a rural State, are experiencing drastic cutbacks in Federal funding, including the elimination of the general revenue sharing program, here we come wanting to cut back the library services, the bookmobiles, the inter-library loans, et cetera, et cetera, and it appears to me to be a glaring inconsistency when we talk about attacking illiteracy and then propose to reduce library services.

Mr. Secretary, you have said yourself in what I thought was a very worthwhile statement, and I quote, "Let's have a national campaign by the end of the 1986-87 school year that every child should obtain a library card and use it."

Well, if we are going to do away with these library services and what would amount to library privileges perhaps in some of the more rural areas, it will be of little use to have a library card. I am sure you see the inconsistency in that, and I am sure you will want to respond to this long statement that I have made here.

Secretary BENNETT. Thank you, Senator.

First of all, on the last point, I hope you would note that we have asked for an increase in adult illiteracy funds. I think we have done a good job in that area. And we have asked for more money in it because we think that we really are engaged in the state of the art in terms of knowing what works, and is effective in adult illiteracy.

We don't think that the Federal program, Federal involvement in libraries again is critical to the survival of those libraries. They existed before Federal programs and grew, and they can exist without this particular program. Of course, again, this, like other things, is a function of other facts and circumstances.

I guess I just cannot decide whether I want to challenge you or not on the question of enthusiasm. If I remember that little bit of Greek I had, I think just enthusiasm would be the wrong word to use about a budget.

When I got this mark from Jim Miller, I didn't kick up my heels and say hot dog, \$14 billion, get out the champagne. I mean this is not the way a civilized responsible public official behaves. I save my enthusiasm for my wife and the Redskins, now the Broncos, whoever, anyway Super Bowls, different enthusiasms for different things.

However, my conscience was clear, let me put it that way. I felt that the mark was acceptable in light of what I knew about education and that we had met it now in the budget we have drawn up in a responsible way.

You are right about a sense of educational crisis in some places. I have to tell you I think that is passing because I think we are on the road to reform and recovery, thanks to the tremendous leadership of Governors. And one would immediately have to think of Lamar Alexander, what he has done.

And again I would say, just using Tennessee as an example of what I have been saying earlier, it matters so much more what Lamar Alexander does, it matters so much more what Superintendent Willy Harrington in Memphis does than what these Federal programs do. Not that they cannot do some good.

VOCATIONAL EDUCATION CUTS

Senator SASSER. Mr. Secretary, the point is this. When you cut back on this Federal funding, it makes their problems so much more difficult. And if we are going to talk about individuals in Tennessee, I will remind you that I represent a State that ranks about 44th in per capita income out of all of the 50 States. Our rural areas and our rural counties have been hard hit by imports. In some counties it is not unusual to have unemployment of 20 percent or more.

Secretary BENNETT. Yes, sir.

Senator SASSER. When I look at this budget of yours, I see cuts in vocational education that will affect 25 percent of the students in the State of Tennessee who attend State vocational schools in rural counties.

Now, what are we going to tell these kids to do for jobs in the future? If they can't go to college and they can't go to vocational educational schools, what are they going to do?

Secretary BENNETT. Well, they can go, they can go, Senator. I was talking about three things. The Chapter 1 programs which are the programs for compensatory education where we seek an increase of \$200 million, and a better targeted program.

Second, vocational education, we do propose zero funding there. Again the Federal contribution there simply is not very significant, and that was a flat out budget decision, not a pedagogical or philosophical matter at all. That was a budget matter.

RESPONSIBILITY FOR SUPPORT OF EDUCATION

In terms of the University of Tennessee that you talked about, I think we would want to dispute some of the figures that you were given about the change in programs and guaranteed student loans. But let's note that the taxpayers of the State of Tennessee are generous in support of that fine university and other universities in the State. They are supporting it, they are supporting others. They are taxed again for Federal educational programs.

We think under the scheme we advanced, the distribution of fiscal responsibility is correct between the taxpayers, most of whom in Tennessee do not go to college, but who still support the University of Tennessee, and that graduates of the University of Tennessee who should be bearing more of the costs.

Chairman CHILES. Mr. Secretary, we are delighted to see the statement that you made on education before it was a priority in the speech. And we are delighted to see the increase that you are talking about in Chapter 1.

I note that you said that conservatives have not paid the attention that they should to the poor. I am delighted to hear you saying that.

Secretary BENNETT. There's a part about the liberals too.

Chairman CHILES. Pardon?

Secretary BENNETT. There's a part about the liberals in there.

Chairman CHILES. Yes, sir. I noticed that you gave them a dig too.

Secretary BENNETT. Thank you.

ADMINISTRATION RECORD NOT GOOD

Chairman CHILES. When we look back at the 1981 revised budget, we see the administration sought cuts of 25 percent in those programs, Congress approved about 12 percent. In 1982, the Administration proposed a cut of 20 percent in the 1981 appropriation. Congress gave a 23-percent increase. In 1983, the Administration proposed a cut of 36 percent, and Congress approved a 5-percent increase. In 1984, you sought a 6-percent cut, and Congress gave a 10-percent increase. In 1985, the administration sought a 2 percent cut, and Congress gave a 5-percent increase. In 1986, no cut was sought, and Gramm-Rudman-Hollings cause a reduction of 4.3 percent.

So I am glad that perhaps some of the conservatives heard the message. I hope that the rest will hear it. The past record is not quite that good.

Senator Nickles.

Senator NICKLES. Mr. Chairman, thank you, And, Mr. Secretary, I will echo some of the comments that have been made.

I still believe we need to meet the Gramm-Rudman-Hollings targets, but I do think they have fallen disproportionately large in your department.

To go from \$19 to \$14 something billion I think is asking for something you know won't happen so I don't think it is really very realistic. Last year, you asked for \$17 and you got \$19 billion. So, again, I think we are going to have to be realistic.

When you say that the total amount of money going into education has been increasing, that is true and it is good, but I would question whether it has been adequate. And also there are many regions in this country where those cuts really, because of the economic climate that they find themselves in, including my State of Oklahoma, would not be able to be replaced. And so you would really be asking a very difficult task of them.

I want to make several comments, many of which have been made.

VOCATIONAL EDUCATION

To zero out vocational education, I would just question. I have worked with the Department of Labor and Bill Brock, and am vaguely familiar with the proposal that he has out for \$900 million. There's no relationship between the programs. I think vocational education is a much better buy for a much broader constituency, many, many more people.

You are looking at dollars per pupil in a much lower category than what has been talked about in most of the DOL proposals. They go up to the Job Corps which is, you know, \$10,000, \$12,000, \$14,000 per recipient. Vocational education is much cheaper, plus you are really moving a lot of people into productive jobs. I would hope that we would look at this, not just again in education, but look at some of the other programs. And I find it not to be a wise proposal to zero out vocational ed and go in with a new almost billion dollar program in Labor.

WHAT STUDENT LOAN DEFAULTS COST

A couple of other comments. In just looking through the proposal, I am very interested in your income contingent loan proposal. I have always been concerned, and am still concerned about the amount of default, so I will ask you that question, what are the defaults on student loans costing the taxpayers today?

I know in some areas U.S. Attorneys have been aggressive in trying to catch up or reclaim some of those funds, and I know in one of our districts in Oklahoma, they have been very successful. I would hope that would go throughout the country.

In looking through some of the other proposals that are in your budget, I noticed Howard University has the same amount of money as last year. I just checked. They have 12,000 students. You requested \$170 million. That computes to \$12 or \$14,000 per student. I question that. I am not that familiar with their program. It seems to be very generous to that university.

Also, and this is in an area of criticism, in looking at almost every element of your budget proposal, there are reductions. You would have to have significant reductions if you are going from \$19 to \$14 some billion. Except for one of the increases is in the Department of Education management, a \$22 million increase. And again if you are trying to scope back the size of your program by 30 some percent, then turn around and ask for a 7- or 8-percent increase in departmental management, I find as being not very wise, and you are going to have to do some selling, I think, to have that go forward.

I make those couple of comments again. I think Senator Domenici kind of hit on it. I think you have some items in your proposal that have a lot of merit. I hope that they are not sunk by the fact that you have them with some proposals that probably don't have a lot of chance of survival, and in that I am talking about your income contingent loans. I think there are some ideas there that could bear some fruit, but I am also concerned that you have them with a lot of proposals that just won't fly. OK.

DEPARTMENTAL MANAGEMENT INCREASE

Secretary BENNETT. Thank you, Senator.

If I could ask Dr. Carnes to comment on that \$22 million increase in management and then I would like to comment on some of the other questions.

Dr. CARNES. The increase in departmental management is comprised the following way. It is basically uncontrolled costs. \$11.8 billion of it is simply due to the new Federal retirement system, and a 3-percent pay raise which was enacted this year. We are not going to be seeking any kind of supplemental funds for those costs in fiscal 1987. We will absorb those in 1987, but our 1988 budget includes \$11.8 billion for that. So that's about half of that increase.

Senator NICKLES. How many employees does the department have?

Dr. CARNES. Our ceiling is 4,500, and we are now at about 4,300. It fluctuates throughout the year, but we generally come in at about 4,500, and that is our ceiling. Whatever, we will not have an increase in the ceiling.

Let me just mention what the other costs are in that S&E Fund. When the Higher Ed Act was passed last year, included in that were a number of studies, extra activities and projects that we were directed to do in law, and we were not given 1 cent to do any of them.

Now, in 1987, the cost for doing those is \$13 million. We are not asking for any additional money to do those in 1987. Throughout the course of that increase, throughout the course of that authorization though, it cost over \$60 million in administrative funds to carry out those things that we were required to do under that law. So they show up in the 1988 budget.

We are not really increasing any other category except personnel compensation because of the new personnel laws, and seeking funds to carry out the activities we were directed to carry out by Congress. That's the S&E answer.

LOAN DEFAULTS

Secretary BENNETT. There was some real good news on the default problem, Senator, with which you are concerned.

I just was told we've collected more than \$200 million in default money.

Senator NICKLES. What percentage of the student loans are presently in default status or in arrears?

Secretary BENNETT. It is about 9 percent.

Senator NICKLES. So that would be how many millions of dollars?

Dr. CARNES. There are a thousand ways we can calculate these figures. Let me just say that what the taxpayer actually paid in default costs last year was about \$1.3 billion. I think that means that there could be conceivably over \$5 billion in arrears. But a portion of that came to us last year. That's the \$1.3 billion figure.

Senator NICKLES. As an annual expense?

Dr. CARNES. Annually, that's right.

Senator NICKLES. How large is the portfolio?

Dr. CARNES. It is over \$40 billion.

Senator NICKLES. \$40 billion, and you said 8 percent of it was—

Dr. CARNES. About 9 percent.

Senator NICKLES. Nine percent past due?

Dr. CARNES. Right.

Senator NICKLES. And you wrote off last year 1 point—

Dr. CARNES. We didn't write it off. We made payments on it. We are trying to get them back into repayment status.

Senator NICKLES. And what kind of luck are you having in your collection efforts?

Secretary BENNETT. \$91 million through the IRS offset and then I can't recall. We can get you the other figures through other efforts. But we are doing a lot better.

The move to get the Internal Revenue Service to let defaulters know they were not going to get refunds had a great effect. A lot of people wrote us saying they saw the story in the paper and enclosed a check. And that is a good thing.

We have some other letters which have been designed by our office of Draconian letter writing somewhere in the Department, which makes it plain that people are going to be held accountable.

Senator NICKLES. I know my time has expired. I would encourage you to use all means to do that because that is a positive thing that can help the program.

Secretary BENNETT. If all those default payments come in tomorrow, it would equal the amount that we are recommending for budget reduction.

Chairman CHILES. Senator Exon.

Senator EXON. Thank you, Mr. Chairman.

Mr. Secretary, just let me tell you for what it is worth that the 30-percent decrease in the educational budget that you propose will simply not fly on either side of the aisle. You should have gotten that message very loud and very clear this morning already.

It is just too bad that in the hallowed name of Gramm-Rudman-Hollings they cut 30 percent in education while Secretary Weinberger and Secretary Shultz in defense and foreign aid come before this committee for a big increase. There is something all mixed up,

Mr. Secretary, on priorities, and I hope that you got that message this morning.

MEETING BUDGET TARGETS A MYTH

Also I was shocked to learn that you said that the Gramm-Rudman-Hollings budget targets are necessary and that we have met those targets. That is one of the most untruthful myths of this whole process. And I wish that the head of the budget was not treated as kindly as he was in front of this committee. You have not been treated nearly with the kid gloves that Mr. James Miller was. And I think that from your testimony this morning, he is as much responsible for this along with the President of the United States as any other.

I simply say that your cuts in the educational budget which will never be accepted by this Congress are a prescription for serious erosion of higher education adverse to this Nation's interest now, and adverse to this Nation's interest in the future. I am not going to get into it because I don't have time.

But once again this administration has eliminated the B funding for the military in impact aid. You continue to beat that horse to death, and I tell you we are not going to accept it.

But looking to the future, trying to come up with something positive, which I think we all want to do, out of this mess that we presently face, I think you know, Mr. Secretary, that America faces two very serious problems, the declining savings rate and the rising cost of higher education that we have talked about a great deal this morning.

EDUCATIONAL SAVINGS ACCOUNT

I am interested in your reaction to a proposal which creatively finds a possible solution to part of the educational expense.

Over the last several years, there have been some discussions regarding establishing an educational savings account which gives tax incentives to families who financially plan for their children's college education.

What would you and the President think about establishment of a family education account with tax incentives similar to those existing for individual retirement accounts so that people could begin to plan now with some consideration on their tax bill for the future in educating their children?

Secretary BENNETT. We have proposed a version of the education savings account last year. I do not have any problem, speaking for myself, in terms of the principle of such a thing, that as parents start to save early on for the education of their children. The reason we did not propose it this year is in part due to the changes brought about by tax reform. And despite merits that I think could be attached to any number of proposals in the area of savings and the like, I think all of us, or at least most of us, are quite reluctant about tinkering with the tax reform changes.

In terms of an idea, there are a lot worse ideas than that, and I am, in principle, certainly not opposed to it. We would be glad to think about it further and get back to you, if you would like.

Could I comment further?

PRIORITIES OUT OF ORDER

Senator EXON. Yes, you can comment further, but let me say something.

Once again, you have taken the usual position that you have here this morning that you would like to do things, if you could. Now, it seems to me, Mr. Secretary, that as Secretary of Education you have the responsibility to represent education. I would suggest that if you think this is a good idea, you would lead on it.

I would simply say to you I think you have the qualifications to be a good Secretary of Education. You seem to recognize your responsibility as a Republican representing this administration comes ahead of your responsibilities to represent the education of the young people of this Nation.

I do not think that is wise. What I am telling you is I am not satisfied with you saying that savings account idea is a pretty good idea if we could fit it into everything else. Why do you not lead on something like that—

Secretary BENNETT. Well, I am not satisfied with your characterization—

Senator EXON. Why do you not lead on that? You only lead on cutting the budget and cutting down the educational opportunities of our children.

I see you are slumping in your chair. You do not like that? But it is time that some of these things be said so that you begin to understand them.

Secretary BENNETT. Well, it is time we told the truth, too, and I do not like your untruthful and unfair characterization.

When you talk about tinkering with reforms in the tax code, one has to universalize that principle, you know? And if I think I have a decent idea or this might be a good idea from Senator Exon, then let us all throw in our ideas and we could just pretty well overthrow all of the changes made last year.

And that is not fecklessness on the part of the Secretary of Education. That is a recognition of political reality. If we start making a pitch for one thing, everybody will start making a pitch for something else. And that is just reality.

Now, the reason I slumped back is I do not like the characterization of my not being interested in education. I do not think you have a harder working Secretary of Education who has visited more schools, talked to more students, been with more teachers, taken on more issues in the cause of education.

IDEAL SECRETARY OF EDUCATION

Now, I realize your notion of a Secretary of Education is somebody who probably spends more time in Washington with Senators talking about more spending bills and more Federal involvement. That is your idea; that is not my idea. But my notion of being a Secretary of Education is not yours, and I am not obligated to accept your notion.

I have said things about education which have pleased Republicans and which have pleased Democrats. I gave a speech yesterday in which I faulted conservatives for some things and liberals for some things. I have been pretty independent, pretty outspoken on

it, and the notion that I have tied everything I have been doing to narrow political interests just will not stand up. The record just will not show that.

DEFENSE BUDGET

Senator EXON. You really did not believe, Mr. Secretary, that recommending a 30-percent reduction in the educational funding, while we are increasing defense spending and increasing foreign aid, makes sense?

Secretary BENNETT. Senator, Civics I, Senator. Defense is the first responsibility of the Federal Government. Federalist Paper No. 2, written 200 years ago, the security of the citizenry is the first and major responsibility of the Government. The education of citizens is mainly a State and local responsibility.

Defense is this Federal Government's key, unique, and all-consuming responsibility in terms of priorities. It is the first and only one.

If I thought that Federal budget cuts that I recommended would dramatically decrease the quality of education, I would not propose them. They will not decrease the quality of American education. Spending will be up—you do not have to do it. We all know what the chart says. Expenditures will be up anyway. The question is how we deploy the funds.

SUBSIDIZED STUDENT AID

And in terms of higher education, I am not just saying, Senator, look, it is Gramm-Rudman and we had to do it. This committee or some committee with this name in the future will have to face the fact that, apart from the situation of Gramm-Rudman, if we put more in to various forms of student aid to subsidize college costs, we are not making it easier for that family, sympathetically portrayed, to meet the costs; because the more we put in, the more the institutions of higher education jack their costs and jack their price.

If you continue to throw money into the student aid programs in ever increasing amounts, it is not going to affect access. Access to higher education is going to be the same under that as under our proposals. But what you are going to do, I predict it—and I will predict it right now—you increase the amount that goes into these programs, the colleges are going to respond to that bid by increasing their tuition 3 or 4 percent above inflation, and the family is going to be right back where it was. Then they will come back here and say, we need more money from the Federal Government to meet our ever-increasing costs.

Sooner or later, this committee of the United States Senate is going to have to face up to that question of dealing with the fact that ever-increasing subsidies at the Federal level are not helping the consumer very much. They are feeding the appetites of higher education.

Senator EXON. Mr. Secretary, my time is up. I just would say that I wish that you were as strong an advocate of education as Secretary Weinberger is for Secretary of Defense.

Secretary BENNETT. Travel with me some week.

Senator EXON. My time is up, Mr. Chairman.

Chairman CHILES. Senator Grassley.

Senator GRASSLEY. Thank you, Mr. Chairman.

Mr. Secretary, regardless of obviously your disagreement with probably a sense of the committee——

Secretary BENNETT. I am beginning to get that feeling.

WHERE RESTORED ED FUND SHOULD BE PUT

Senator GRASSLEY. Surely you have heard a view from both sides of the aisle that there will be some adjustment downward in defense expenditures. Whether or not it would be as much as Senator Exon might want is a question, but there will be some adjustment downward, and there will be some restoration of money to education programs. Whether it will be the full \$5.9 billion that it would take to restore to current services or not, we can't say at this point, but some.

So from the standpoint of some change in that direction, are you in a position to recommend from your standpoint where some of those funds ought to be restored in the sense of not just sitting back and having us put it there, but to be part of the process?

Secretary BENNETT. I would be happy to talk to you in some detail about this, Senator. I am reluctant, obviously, to do this right off the top of my head.

Senator GRASSLEY. Well, it is perfectly legitimate, though, to think in terms of what alternatives are.

Secretary BENNETT. Sure. Right.

Senator GRASSLEY. If you are going to come up with something else. It would seem to me like you would want your input, and we want to listen to your point of view, even though we might not go along with it.

VOCATIONAL EDUCATION

Secretary BENNETT. If we made a distinction between budget reductions that are driven almost entirely by the budget, and budget reductions that are driven by budget plus other considerations, I think I could break it down this way: If \$20 more were available—just using any figure—for vocational education, it certainly would not bother me. I have no objection to that. And as I have said, this was one of the last things to be discussed and determined at the level of discussion with OMB.

SPECIAL EDUCATION

I would feel somewhat the same way about some of the areas in special education, education of the handicapped and the like. Although we are proposing increases over our 1986 request, there are some reductions as compared to our appropriation.

ACCOUNTABILITY OF HIGHER ED

If you look at higher education, I think the philosophical shift that we recommend there in the context of substantial budget cuts is one that we would urge that you give some attention to. Because, like the commercial says, you either face it now or face it later, the question of Federal subsidies to higher education and increasing

costs and the price of higher education and lack of accountability in higher education.

We would not have a principled opposition to somebody who says, look, under previous funding levels 22 percent of students received Pell grants; under our proposal 16 percent should receive these grants. How about 18 percent or 18.5 percent? I do not think anybody is going to have any major principled disagreements about that.

I tend to think we are closer to where it should be than where current figures are. If one looks at the history of the legislation creating the Pell grants and so on, the idea was that this grant would go to very poor students. And we now give Pell grants to one out of four, we would shift to one out of six, and we do not think that would be draconian.

So I would indicate those areas, I guess.

DEFENSE BUDGET

Senator GRASSLEY. OK. I would just make a comment in addition to that, because some of the things that Mr. Exon said very early on about defense being too high and what that money is being used for, I would add to that. I would associate myself with his early remarks, but add to it, you know, it is one thing to cut education or any other program if that is going to reduce the budget deficit. But if it is going to increase defense, and not to detract from your comment about the major responsibility for defense from the Federal Government, total responsibility for defense from the Federal Government, but also a legitimacy on our part of how that money is spent.

You know, just like you want to get the most for the education dollar, most everybody on this committee, with few exceptions, is willing to get in and see that we get the most out of our defense dollar. And there is a feeling that with just throwing a massive amount of increase in the defense budget, that we really are not encouraging the sort of economy and wise expenditures there, and emphasizing the principles of competitive bidding the way we ought to, if we are being tight.

So it is not just a budget issue of wanting to cut down on defense. How do you go about getting some conservative approach to the expenditure of the defense dollar?

Secretary BENNETT. Could I just comment on that briefly?

Senator GRASSLEY. Yes.

WATCH STATE ABUSES OF EDUCATION FUNDS

Secretary BENNETT. Because I would certainly want to agree with it. There has been a lot of attention in the media and elsewhere to the idea of the \$300 coffee pot of defense, and I guess this was the thing that our auditors found. And everybody said why are we spending \$300 for coffee pots, or whatever it was, \$100 for hammers and screwdrivers.

I want to associate myself with your remarks, Senator, because we find some of the same things in education. And we would hope that the Senate would be as interested in the \$250 screwdriver at

the State education level or the local education level as in some of these areas.

Obviously, it would be the responsibility of State legislators and Governors, but where Federal moneys are being expended, I hope we could see that same tracking of funds.

Senator GRASSLEY. Let me assure you, we will. And if you want to point some of those things out, and you already have—

Secretary BENNETT. Good. Great.

Senator GRASSLEY. If we have not paid enough attention to them, we will, because we have that same responsibility.

Secretary BENNETT. See, in our chapter 1 proposal, which is our largest single program, what we are saying is that the Federal Government and the taxpayer should stop paying for the \$400 coffee pot that does not brew, which is maybe in the educational analog the \$50,00 or \$60,000 chapter 1 program in which kids do not learn any more, they learn less as a result of being in that program, and that we create some incentives for that pot to brew and for rewarding some of the people who are doing well by our children.

Senator GRASSLEY. Well, I think you see your job maybe questioning the establishment in education. A lot of the people on this committee are doing the same thing in defense because it is wrong for us not to question—or let me put it the other way. It would be wrong for us to accept the judgment and perform pro forma, whether it comes from educators or comes from generals.

Secretary BENNETT. Yes, sir.

STUDENT LOAN RESTRICTIONS

Senator GRASSLEY. And our job is to have oversight and to make major policy changes that will correct major wrongs, whether they be in education or in defense.

One very narrow area, and I do not know whether you can do anything about it, and it is really beyond just a budget issue. But we have received a lot of interest—evidently, Congress made a change, and from that standpoint I do not know whether we have to change it or you have to change it. But on this business of student loans, where the student has to go directly to the bank, we have just been receiving tremendous complaints from those students, institutions—or all three, students, institutions and the banks on that.

What are you thinking about? Are you recommending changes to us eventually? And better yet, is there anything you can do to change it?

Dr. CARNES. We have looked very carefully at that issue. We are aware of the complaints that the institutions have to send the application back to the student, and the student transmits it to the lender. Big problems there. We are aware of that. Our lawyers have gone over it very carefully, and we do not see how the law, as written, would allow us to do anything other than what that law says. It is very, very specific, very precise. We have to go with it for a while. We will be proposing next month a technical change in the Higher Education Act to get around that. From now until Congress enacts that change, we have to go that way.

Senator GRASSLEY. Will your suggestion be to just eliminate it?

Dr. CARNES. Yes, basically.

Senator GRASSLEY. OK.

Dr. CARNES. The intention was to make sure that the student was aware of what his debt burden was going to be. We are in favor of that.

Senator GRASSLEY. Well, maybe that news is out.

Dr. CARNES. Yes; I think we are responding in writing to the committee.

Senator GRASSLEY. But it will be very good news to a lot of the banks and students and universities in my State.

Thank you, Mr. Chairman.

Chairman CHILES. Thank you, Senator Grassley.

ILLITERACY PROBLEM

Mr. Secretary, during the past 2 years, we have noticed an increasing concern on the part of educators, legislators, and business leaders about our children at risk of dropping out of school. Teachers tell us some students become discouraged and decide to quit. They tell us that the problem is made worse by teen pregnancy and language barriers.

Business people express fear over the number of functionally illiterate youth entering the work force. Secretary Brock had a statement about that yesterday when he spoke of children who could not read their own diplomas.

I believe these dilemmas, school dropouts and limited literacy, continue to pull America down on the ladder of economic competition and success. Do your chapter 2 proposals address these problems? I would hope the department might suggest methods of improving school records in this regard and not simply allow schools to spend existing dollars on what most agree are monumental problems demanding some creative solutions.

I applaud your effort to combat adult illiteracy. Do you think that increase is going to help these at-risk students?

Secretary BENNETT. Yes, sir. We think both Chapter 1 and chapter 2 proposals should be helpful here.

APPROACHES TO CONTROLLING ILLITERACY

The problem of illiteracy is one that we can do an awful lot about and should do an awful lot about early on. People should not graduate from school if they are illiterate.

I am impressed, Senator, as I mentioned to you in your office with a couple of programs in your State where it seems to me they have combined two good ideas, which is standards, competency testing, plus use of the school building year round. In Duval County, if I am not mistaken, students do have to reach a certain level of competence before they are promoted to the next grade. But if they fail at the end of the year to meet that, they have another chance; they can go to summer school. This is a good use of summer school, and they get another chance to move on to the fourth grade or the eighth grade.

This assures high expectations, high standards, and as a result, Duval County has a very high achievement in literacy. These things are not terribly mysterious. It works.

Our chapter 1 program proposal will emphasize the aspects of rewarding success and increasing accountability. The education system in our time, I think, Senator, is overregulated but underaccountable. Something should happen to a school that consistently fails to teach its children. Something should happen to a school where kids drop out in inordinately high numbers.

We can no longer make the argument that if children are poor or disadvantaged or minority, Hispanic, black, that therefore it is inevitable that they will drop out, that they will be on drugs, that they will get pregnant, or that they will not go to school. It is just plainly not true. If we do justice by all our children, they will succeed. Good schools with good principals and good teachers can have this kind of success, but there needs to be some accountability in the system, and that is why we are seeking that accountability in Chapter 1.

Two schools in the same neighborhood, one of them with a 96-percent attendance rate, another with a 75-percent attendance rate. I would go to that school with the 75-percent attendance rate and find out who is the principal and why, and think about maybe we should have a different principal much like the one who has the school with the 96-percent rate.

These are all issues that can be addressed, and I think are not, frankly, too difficult to address in the context of Federal legislation as well as State legislation. And these we attempt to do in our chapter 1 and chapter 2 proposals.

In terms of English, that is addressed in our bilingual education proposals. There, again, we stress that it ought to be the educational right of every child in America to be fluent in English by the time that child reaches eighth grade, ninth grade, whatever, probably even earlier.

The South Bronx school I was in yesterday, half the children there come to school not speaking English. By the time they are in the third grade, they all speak English. This is in one of the poorest neighborhoods in America.

SCHOOL DRUG ABUSE

Chairman CHILES. Thank you, sir. During the election season we found many people with a vested interest in public opinion speaking out against drug abuse in our society. Certainly, the administration, the President and the First Lady who has had a long interest in this, were active in this campaign. As part of that new drug bill, Congress appropriated money to allow schools and post-secondary institutions to develop and implement drug abuse prevention programs.

Now, we see your budget requests a \$100 million cut in this area. Are you telling us we have already won the drug battle in our schools. What reasoning went into the desire to make a 50-percent cut?

Secretary BENNETT. The bill was, of course, signed by the President at \$200 million, and that is our share, \$200 million. But last year, we requested \$100 million, and that is the same for this year.

I think we can all agree that there was something of a preelection fever about drugs, and people were bidding and then outbidding and bidding again and outbidding, kept raising the ante.

In our area, I think I can say with confidence of some fairly substantial research on the subject that \$100 million will be adequate to the task of what we want to do if people at the State and local level, particularly in the schools and in the communities, will make a decision about low or no tolerance for drug use in the schools.

I will meet with the governors and chief State school officers' representatives next week to discuss the distribution of our money. I think there is plenty there this year, and I think the \$100 million would be plenty next year.

WHO KNOW BEST

Chairman CHILES. Mr. Secretary, you seem to believe that all the wisdom comes from the department and the department's request. If the department only requests \$100 million and Congress says it should be \$200, well, hell, the Congress does not know what it is talking about, anyway; so we will go back to the \$100 million request.

That is what I am hearing. Before we had the drug bill, we were spending \$1.4 billion on the enforcement side of drugs and on the education side we were spending \$3 million. That was your discretionary funds, as I recall, of \$3 million.

Now, we have increased prevention funding, trying to keep drugs from entering the country. We also increased some other aid to State and local law enforcement. We increased the building of prisons. We put other money in, but now we are talking about \$200 million more than we could ever spend on the education side. Certainly, this money is to trigger the State and local governments. Obviously, that is the way.

Secretary BENNETT. No, well, excuse me. I mean, happily, State governments and local officials did not wait for the Federal Government to act on this. They have been acting all along. Responsible officials have had responsible policies in place, recognizing it is mainly a local responsibility.

POLICY, NOT MONEY, CONTROLS DRUG PROBLEM

I do not say that the Congress is out of its mind if it says \$200 million. I am saying we think we can do the job on \$100 million. And as Congressman Gray was saying the other day, this is the time of fiscal austerity. Maybe one useful distinction is the distinction between what is desirable and what is necessary.

We do not think \$200 million is necessary to eliminate drug use in our schools. The education problem in regard to drugs is not as costly as the other problems. Helicopters cost money, prisons cost money. The main thing you have got to do in schools is tell kids if you use drugs, you are not going to have a place in this school. That does not cost anything, just courage and acting like an adult.

Chairman CHILES. I do not think that is the main thing a drug education program should be about.

Secretary BENNETT. It is the most effective.

Chairman CHILES. That kids cannot come to school.

Secretary BENNETT. It is the most effective.

DRUG EDUCATION PROGRAMS

Chairman CHILES. Well, it may be effective. If you cannot help build in that student some reason to avoid using drugs, or convince him that crack is dangerous, that you cannot experiment with it, if you fool around with it, it will hook you if you use it once or twice, if you cannot do those things, we are in trouble. You know, you will get to some of the students, get their attention, yes, to tell them they cannot be in that school. But I hate to think that is the only reason we are talking about drug education as a meaningful program in K through 12. Hell, we can just put a sign on the wall and we do not need \$200 million to do that.

Secretary BENNETT. Probably not, no. But, again, I think we might have a disagreement.

Chairman CHILES. We do not need \$100 million?

Secretary BENNETT. I agree with you, Senator, that it is important for students to know about crack and what it does and how deadly and addictive it is. But we find when we look at students who were arrested for drug abuse, for drug pushing, most of them are graduates or veterans of drug education programs.

Chairman CHILES. I do not find that to be true. I disagree.

Secretary BENNETT. You take a look at the District of Columbia at the busts they make when they arrest the dealers. Most of these kids took the course in drug education. Where you will find low incidence of drug pushing and drug use is where the school has, in addition to a drug education program, clear policy, against drug use.

Chairman CHILES. Now, when you say in addition to a drug education program, a clear policy, I agree with that.

Secretary BENNETT. Right.

Chairman CHILES. But that is not what I heard you say the first time. I think it is fine if you have a policy, that will do it.

Secretary BENNETT. Well, I think I will stick to my guns based on what we know. I think it is good to have both, but if I can only have one, I would rather have clear policies than drug education programs. One of the reasons is—

Chairman CHILES. Well, and if we have only got \$100 million, maybe we only will have one. Maybe we will not have the education program.

Secretary BENNETT. No, well, we have education programs in 85, 90 percent of the schools in America anyway without the Federal money.

Chairman CHILES. You are not trying to tell me now that there is a meaningful drug education program, K through 12, in 85 or 90 percent of the schools in this country today, are you?

Secretary BENNETT. Not in every year of K through 12, but I am willing to say that in 80 percent of the school districts in this country, there is a drug education program.

DRUG PROGRAMS MUST BE MEANINGFUL

Chairman CHILES. Mr. Secretary, you ought to go and look at some of those drug education programs. I hope we are not giving

any Federal dollars to some of the so-called drug education programs.

Secretary BENNETT. Yes, that is a problem.

Chairman CHILES. They are less than nothing. And that is why we tried to put in the legislation that it had to be a meaningful program, and that it had to have some criteria to it. Hopefully, this will not be another revenue sharing proposal where you tell us you have a program and we ship you some Federal dollars. We certainly do not want that. We want it to be a meaningful program.

My State, I think, is very concerned about drugs. We are on the front line. Some of us have been very involved. It has been a heck of a political issue, as well as every other kind of issue. But with all of that, there are not meaningful programs in all of the schools anywhere near a majority of the schools. They are beginning to do something now. I think the Federal involvement is tremendously important to trigger those kind of programs.

Secretary BENNETT. I agree with you about many of the places where there are drugs programs that are not meaningful programs. This is a tough one. I think you and I agree, and I expect we would agree about what constitutes a meaningful drug education program. But the limitations of the Federal Government in mandating curriculum and saying what should be taught are a problem here.

I have seen in many States where there are serious drug problems drug education programs which, frankly, I think students would be better off without. But these are matters of local determination, not Federal determination. That is why I do like coming back to the importance of the consistency of school policy in this regard, in addition to good programs.

You might have some pretty squishy and soft drug education programs, but if you have got adults taking serious policies seriously and acting on them in the school, you might overcome the limitations, intellectual and moral limitations of your drug education program.

Chairman CHILES. Mr. Secretary, I want to thank you for your patience and your staying here through everybody's questions. I think we have had a spirited discussion the budget proposals for education. I think you can sense some general agreement up here that you might list us as doubtful as to the 30-percent cuts that are proposed there if you were polling us. I think we certainly agree that throwing money willy-nilly will not solve the problems, but trying to cut money willy-nilly will not solve them either.

I think now that I hope we will be able to put together an alternative that tries to meet our country's needs, and perhaps gets beyond the budget and really starts talking about quality education, which is something I am sure you are interested in, too.

Thank you for your attendance here.

Secretary BENNETT. Thank you very much, Mr. Chairman.

[Whereupon, at 12:45 p.m., the committee adjourned, subject to the call of the Chair.]

EDUCATION POLICY

TUESDAY, FEBRUARY 17, 1987

U.S. SENATE,
COMMITTEE ON THE BUDGET,
Washington, DC.

The committee met, pursuant to notice, at 10:07 a.m., in room SD-608, Dirksen Senate Office Building, Hon. Lawton Chiles (chairman of the committee) presiding.

Present: Senators Chiles, Sasser, Riegle, Exon, Lautenberg, Sanford, Wirth, Domenici, Symms, Grassley, and Danforth.

Staff present: Richard N. Brandon, staff director; and Kim Wallace, analyst for education, training, employment, and social services.

For the minority: G. William Hoagland, staff director; and Michelle Mrdeza, senior analyst for human resources.

OPENING STATEMENT OF CHAIRMAN CHILES

Chairman CHILES. Good morning. This morning we will receive testimony from a distinguished panel involved with education programs and spending.

We recognize Dr. Charles Reed, the chancellor of the State University System of Florida.

Governor Kean of New Jersey is to be with us a little bit later.

David Packard, the chairman of the Board at Hewlett-Packard.

Marc Tucker, the executive director of the Carnegie Forum on Education and the Economy.

We are delighted to have all of you with us today.

Mr. Packard has an obvious connection to the emerging technologies industry. For some time he has been involved with the transfer of university research to useful applications in business. We look forward to his remarks on the type of education necessary to prepare future front-line competitors for challenges that they will face in the international marketplace.

Charlie Reed is an operator of one of the major post-secondary learning systems of the world, and he and his peers constantly face the battle of balancing cost of providing quality college education with tuition charged middle- and low-income students. Dr. Reed will offer the committee his insight into the condition of college learning.

Marc Tucker's background is anchored in education. Prior to becoming executive director of the Forum, he conducted research for the Carnegie Corporation. During the 1970s, Mr. Tucker worked at the National Institute of Education. In the past 2 years he has been staff director of a study that has at the very least heightened

national focus on the teaching profession. We expect that Mr. Tucker will provide us with his opinion of how student learning outcomes might be improved, and what changes might be needed to increase the ability of the Nation's teaching corps to address current problems in the classroom.

Governor Kean, through his involvement with national organizations—the National Governors' Association and the Education Commission of the States—has gained a reputation for aggressively attacking problems in his State school system. We look forward to his comments, as a leader in State education reform efforts, on the Federal role in education.

PRIMARY CHALLENGE FACING CONGRESS

One of the primary challenges facing this Congress is how we can best prepare tomorrow's generation. With competition so intense in trade, business, industries, and the classroom, we obviously have work to do. It is the job of the Budget Committee to provide guidance on how we move forward while the deficit is still chained to our legs. Nobody is saying this is going to be easy, but when it comes to investing in education even while cutting the deficit, we are saying it is necessary.

As anyone operating a tight family budget knows all too well, reaching long-range goals always demands short-term sacrifices. In order to make those investments now that will help us to attain a sustainable rising standard of living for all Americans, we have to make some choices, and they are never easy.

But the administration has submitted an education budget that must be returned and stamped by this committee, "no admission." It simply does not make the grade. At least that is what I heard from members on both sides of the aisle when Secretary Bennett appeared.

QUALITY EDUCATION BEDROCK FOR FUTURE

Quality education is the bedrock upon which we have to build the future. Better teachers, students with greater opportunities, improved transfer of scientific advances to business applications, and parents more deeply involved in the education process.

I agree the Federal Government cannot provide the bulk of resources for education, but reducing our commitment will only prolong the day when once again we can say America is the leading player in the international economy.

Last week, the Department of Education published its fourth annual report card on the condition of elementary and secondary education. One of the charts' indicators shows that while States have increased their contribution to education, the Federal portion of this partnership has eroded.

Last month, Secretary Bennett was here at the Budget Committee. He continued to insist that increased spending has not improved the quality of education. But with his request for a 30 percent cut in funding, he seems to be saying that decreased spending will improve the quality of education.

We asked you here today because we need advice from people in the know. Our questions are as basic as they come.

What needs to be done to improve education in this country?

How do we deal with the problem of dropouts, how can we be most effective in bringing math and science instruction to our youngest students?

In what areas should we reduce lower priority spending to make room for exciting new initiatives so education can make its necessary contribution to restoring out economic power?

What can the States do to raise the quality of education, and how can the Federal Government help them?

What's the role of business and industry in modernizing the classroom?

How do we balance the curriculum that prepares students for the workplace with the need to provide a broad educational experience?

To what other groups can we turn for guidance and help?

Gentlemen, we certainly look forward to, and hope you can help us in, your testimony.

Senator Domenici.

OPENING STATEMENT OF SENATOR DOMENICI

Senator DOMENICI. Thank you very much, Mr. Chairman. Panelists, I am pleased to join with Senator Chiles, the chairman of the committee, in welcoming you here this morning. Obviously, the focus of this hearing is as broad as it is significant—Federal education policy and the shaping of that policy for the future.

This is no small task. I am pleased to have the opportunity to have our panelists discuss the status of education in the United States, and the appropriate Federal role for the future.

FEDERAL GOVERNMENT LACKS STRONG ROLE

Obviously, the Federal Government's role is a shared one. It is a responsibility shared with States and local governments. In my mind, the Federal Government must also have a strong role in educating disadvantaged students at the elementary and secondary level and in offering financial assistance for needy students at the college level.

But I do want to state for the record that, according to the best information I have for the 1985-1986 school year—the Department of Education is the source of this information—and to the extent that they have been accurate, direct education expenditures for elementary and secondary education, are estimated at \$161 billion during the 1985-1986 school year. The Federal share was 5.9 percent of that—at least that is according to the Department. \$161 billion—our share was \$9.4 billion.

For higher education in the 1985-1986 school year, the direct expenditure was \$105 billion. The Federal Government had a bigger share, about \$12.9 billion, or 12 percent.

So obviously, any way you look at it, over 90 percent of direct education expenditures come from State and local governments. The federal role is not the major role. It is limited. Nonetheless, I concur with the chairman. In dollars it should not go down, obviously. Perhaps it should be readjusted so it is more effective. Maybe we have to change our mission and role.

But clearly in these times, even though we are a small portion, education is having a difficult time. The Federal Government cannot diminish substantially the minor role that it currently plays. It just must be more effective, as I see it.

So today we are going to get your views, and obviously we will make some decisions in terms of the level of education funding for the future. We hope that the committees of the U.S. Congress, along with the executive branch, will spend those dollars more wisely in the future.

STATES IMPROVING EDUCATIONAL PROCESSES

Each State is currently involved in improving its educational processes. We are hearing an awful lot about updating the educational system in almost every State. Words like performance-based pay systems are now in the proposals of many governors, including mine in New Mexico. Merit pay, as some part of the overall improvement, is now part of the discussion.

There are an awful lot of things going on at the local level, and clearly they are going to be the fountain for springing ahead. But our national government has to spend its money wisely and work with those dollars and those initiatives at the local levels to keep us competitive, and keep our workers excited and capable of obtaining jobs.

Thank you very much, Mr. Chairman. I look forward to hearing from the panel.

Chairman CHILES. Thank you, sir.

Mr. Tucker, we are going to call on you first. I would like to tell each of you that your statements in full will be included in the record.

STATEMENT OF MARC TUCKER, EXECUTIVE DIRECTOR, CARNEGIE FORUM ON EDUCATION AND ECONOMY

Mr. TUCKER. Thank you very much, Mr. Chairman.

STANDARD OF LIVING COULD DECLINE

The premise underlying the Carnegie Forum on education and the economy is that the country faces a steady decline in the national standard of living if we fail to rebuild our education system from top to bottom.

There are workers in southeast Asia making home video recorders for sale in the United States who work 363 days a year, 12 hours a day, and earn \$3,000 a year. The work they do is very routine.

There are millions of other workers located around the Pacific rim who also have the basic skills required to do this work and who are prepared to work even harder for less money.

American employers whose product or service requires the use of large numbers of people doing routine work, requiring only the basic skills, have two choices if they want to stay in business in the years immediately ahead. They can either automate those jobs or they can export them to countries whose workers have the basic skills and will work for very low wages.

The critical question, in my opinion, is why employers, and ultimately, consumers, anywhere in the world, should be willing to pay American workers 10 times as much to work half as hard as workers elsewhere. They will not, of course, unless American workers can do something that workers elsewhere cannot do.

Individual employers, and the country as a whole, can adopt one of two strategies: either continue to have a work force composed mainly of people who have only the basic skills, or less—which requires lowering the basic wage rates until they match those of workers in South Korea, Malaysia, Thailand, and the Philippines; or leave the routine work largely to others, and do the kind of work that requires highly educated and highly skilled labor—work that can command high wages on the world market.

The difference between employers and the country is that employers can prosper by going offshore, but the country cannot.

The second alternative, building our national economy around highly educated workers, backed up by the most advanced technology available, is the only course that this country can pursue if we want to maintain our standard of living.

If we do decide that we want to maintain our standard of living, then it is inevitable that hundreds of thousands, and then millions, of jobs occupied by people who do routine work are going to disappear in this country—jobs that will be turned over to machines or to people in other countries. We will become a nation of people who think for a living.

MILLIONS WILL NEED TO BE EDUCATED

The implications, I believe, are staggering. Millions of adults now in the work force—many who have the basic skills but little more, others who are barely literate, and still others who are illiterate—will have to be educated. I do not by the way, mean reeducated; I mean educated.

Millions of school children who are now fated to leave school with no more than the basic skills, if that, will have to meet a new educational standard—a standard that is far higher than any that this country has ever tried to achieve before for all of its children.

TOMORROW'S WORK FORCE

The challenge is much greater than most Americans realize. Our future work force includes a steadily rising proportion of people who are, and will continue to be, exceptionally difficult and expensive to educate. The American work force is expected to grow by 30-million workers over the next five decades, but we are not going to add one white male worker to the current total in that whole period.

Most of the net addition is going to come from the ranks of children and from adult immigrants, a great many of whom are minorities and poor. Today, almost half of our poor are children. By the year 2000, one of three students in the United States is going to be nonwhite. Many more will be poor than are now. Poor children are likely to suffer from various forms of malnourishment, and therefore to suffer from learning disabilities. An increasing propor-

tion are going to be children of children, and are going to come from single parent families. I am describing tomorrow's work force.

BEST TEACHERS NEEDED

Given these circumstances, we clearly need the best teachers that we can get, but our best and our brightest are not interested in going into teaching. For decades we have relied mainly, for our teachers, on college-educated minorities and college-educated women who have had few career choices other than teaching.

Now they have got plenty of choices. Because teachers' pay ranks at the bottom of the pay distribution for occupations requiring a college degree; and even more important, because we treat teachers more like hired hands than professionals—we are about to scrape the very bottom of the barrel for our teachers, at the very moment when we need better teachers than we have ever had before.

This country has not even begun to think about the problem of educating the millions of people now in our work force who are so poorly educated they cannot benefit from the training required to prepare them for the work that lies ahead. We insist on talking about the problems of the adults in our work force in terms of literacy and short-term training when the real problem is that they need to be much more than literate; and they are so badly educated that they cannot benefit from the training that employers can afford to provide.

What is to be done?

COMPREHENSIVE RESTRUCTURING OF SCHOOLS

Two years ago, the Carnegie Forum assembled a task force chaired by Lewis Branscomb, chief scientist and vice president of IBM, to address the issue of quality of teachers in our schools. In its report, "A nation prepared—teachers for the 21st century," the task force concluded that nothing less than a comprehensive restructuring of our schools, and of elementary and secondary education policy, would do.

For the schools to get their fair share of the country's best and the brightest—those who could otherwise be doctors, accountants, engineers, lawyers, and architects—the country, according to the task force, is going to have to redesign teacher compensation, teacher education, and the structure of teachers' careers.

New means of recognizing teachers' competence, similar to the medical boards and the bar examinations, are going to have to be created. Schools are going to have to be reorganized around new roles for highly professional teachers. New methods of accountability will have to be introduced, so that the new authority the teachers and principals will have will be matched by increased accountability for student performance. Finally, a massive commitment will have to be made to reverse the steady attrition among the ranks of minority teachers.

ROLE OF FEDERAL GOVERNMENT IS CRUCIAL

The Carnegie Task Force called for the States and the localities to take the lead, as is proper, but the role of the Federal Government is crucial. At a minimum, the Federal Government must

maintain its commitment to the programs for the disadvantaged, and if possible expand those programs.

Beyond general support for disadvantaged children, however, it is especially important that programs like the TRIO programs be sharply extended to assure a growing supply of minority students who leave college with strong academic records and become available for enrollment in the new graduate teaching programs.

For the same reason it is essential that Federal assistance for the historically black institutions be continued, because these institutions provide a greatly disproportionate share of black teachers.

New ways have to be found to assist the community colleges in enrolling large numbers of minority students to improve their ability to prepare their students for transfer to 4-year institutions.

Most of our hispanic students, by the way, do not get beyond the second year in community college. If we make the professional preparation of teachers a graduate undertaking, they are not even going to be in the pool.

Proposed cutbacks in student grant aid are likely to continue to have a disproportionately great effect on minority students.

CREATE PROGRAM FOR MINORITY STUDENTS

Finally, we believe that the Congress should consider creating a new program or amending existing ones to provide for a modest but growing number of fellowships for minority students to enable them to get the new graduate degrees in teaching.

There is a lot more that the Federal Government could and should do. Redesigning the schools for performance is going to require substantial research and development on new approaches to teacher assessment, student assessment, performance-based incentive systems, the use of new technologies in education, and improved curricula, especially for mathematics and science. No State can assemble the resources required for the R&D required; it is a uniquely Federal role.

A whole new look needs to be taken at the education of adults now in the work force. The problem, in my opinion, is now misconceived. The institutional structure is unresponsive. Currently available funds are not well-spent. And the incentives facing individuals and institutions do not work to encourage investment in greater competence.

I know that the Federal deficit imposes very real constraints on the options available to this committee. In the long term, however, the budget and fiscal problems facing this body can only be resolved by a healthy economy. Though many changes are required to produce a competitive economy, none, in our opinion, is more important than those required to assure that we have a highly skilled work force.

I applaud this committee for taking that truth into account as it sets budget priorities for the Nation.

Thank you.

Chairman CHILES. Thank you very much, Mr. Tucker for a most interesting statement.

Mr. Packard.

**STATEMENT OF DAVID PACKARD, CHAIRMAN OF THE BOARD,
HEWLETT-PACKARD**

Mr. PACKARD. Mr. Chairman and members of the committee I am very pleased to be here today, and I have included, with the comments I have made a copy of the White House Science Counsel Report on the Health of U.S. Colleges and Universities. This is a group of 13 distinguished scientists who studied the health of the U.S. colleges and universities and made some very specific and useful recommendations. I will refer to that report in my remarks.

COLLEGES AND UNIVERSITIES MAKE IMPORTANT CONTRIBUTIONS

I want to begin by going back and reviewing for you the important contributions that our colleges and universities have made to our country over the years because this is a contribution of very long standing. One of the basic differences between the United States' system of higher education and that of Europe and Japan is that our colleges and universities have been more interested in the practical application of knowledge in addition to the generation of knowledge. The Federal Government role in this is not new. The land grant colleges were a very prize example of the establishment of colleges to generate more information about agriculture and to provide a system where that information could be provided to the farmers all across the country. And I think, without any doubt, that is the reason why American agriculture has been so successful.

Now, that's only one example. There are many. If you look at the beginning of the generation of electrical power, most of the ideas, in the early days, came from our universities—much of theory; and our universities educated the scientists and engineers who built the power plants, the transmission lines, and all the appliances that we enjoy without a second thought today.

I've alluded to these examples to indicate that the contributions of our colleges and universities to our welfare is nothing new. It's been a long and important contribution to the economic strength of our country for many decades. We tend to think of contributions since World War II as being unique and, in fact, the Federal support of universities was expanded greatly after the war. I'll come back to that in another moment.

CONTINUING EDUCATION IS IMPORTANT

But I want to emphasize a couple of other things. We are living in a time of rapid change. You know, scientific knowledge, and for that reason, continuing education, is important. Just to point out, when I studied engineering at Stanford there were no transistors, there were no electronic computers, there were no televisions, no jet engines, no genetic engineering. I've had to learn all about those things since I graduated from Stanford. And this is the way things have been, and this is the way they're going to continue to be.

So one of the things I want to emphasize to you people is that you've got to look at education as a continuing process and not a one step procedure. And it's very important that education be considered as a lifetime endeavor.

We're also living in a time of rapid change in our economy. Heavy industries are becoming a smaller part of industry, although still an essential part. Service industries are expanding at a rapid rate. Now, this is a watershed change, in my opinion, that is characterized by one very important fact. Raw materials and natural resources are no longer the foundation of our economy. Knowledge is now the most important element in our economy. And it is for this reason that the health of our United States' colleges and universities must be among the highest priorities of this nation.

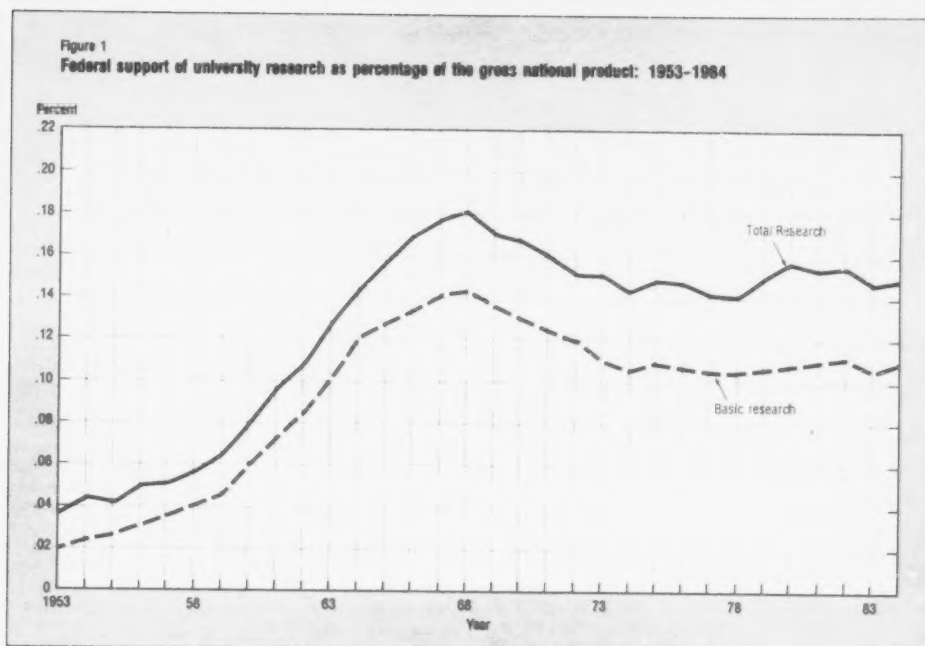
The work of this panel indicated that we still enjoy the world's strongest scientific and technological enterprise, to which our colleges and universities are absolutely essential. The panel also concluded that there are some disturbing problems and questions about the short and long time health of this enterprise, including our colleges and universities. Now, the level of support for university research was increased after World War II, and the present pattern of Federal support has evolved since that time. Vannevar Bush, who was in charge of the scientific effort during World War II, was greatly impressed by the contribution the scientists and engineers from our universities had made to the successful war effort. And he recommended that a Federal policy be established for the support of university research in the post war period, patterned on the wartime experience.

POLICY OF RESEARCH PROGRAM HAS CHANGED

Now, it is important to note that the research program, under Dr. Bush's guidance, was funded with block grants, and the scientists and engineers worked out the details, decided what to do without any direction or guidance from the government. We have gone a long way from that situation today and one of the things that I am going to recommend is that we move back toward that kind of a policy in Federal funding of university research.

The Office of Naval Research had an outstanding record in managing this research during the war and that office was put in charge of the post war effort in continuing to administer the federally supported research until the National Science Foundation was established in 1950.

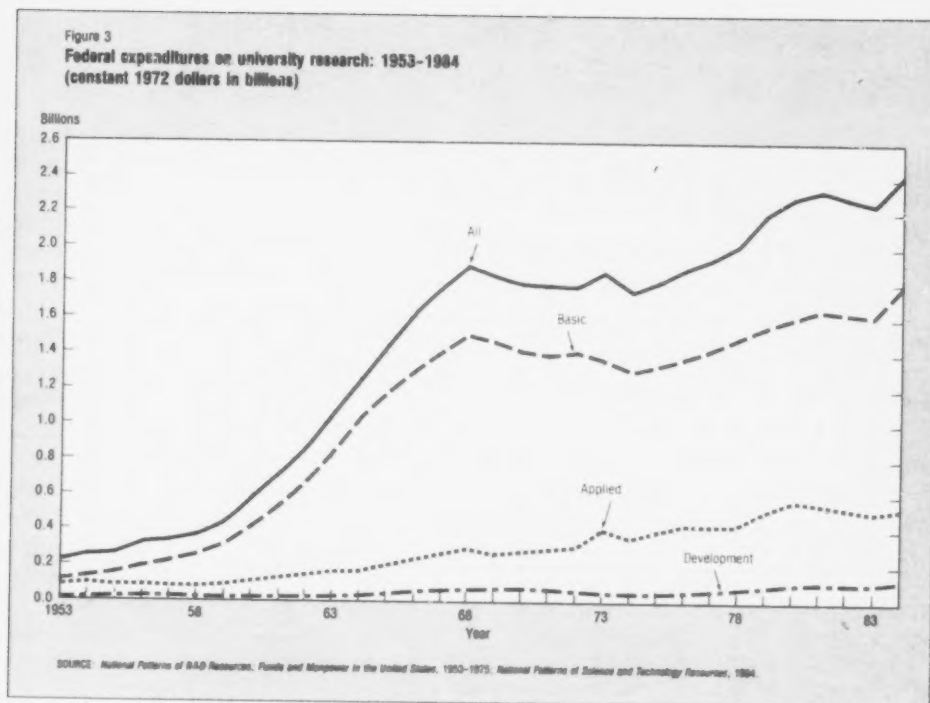
The Federal expenditures on university research expanded very rapidly after 1950 and then the event of Sputnik accelerated Federal support, and it reached a peak in 1968. And if you'd like to look at page 4 of the report here you will see the chart that shows the Federal support of the university as a percentage of the gross national product. It peaked in 1968 at 0.14 percent of GNP, and it is now substantially below that, about 0.11 percent of GNP.



Now, that may or may not be a relevant matter, but I think that you'll find if you look into the details that a great deal of the progress that was made in Silicon Valley, for example, came out of the research that was done prior to 1968, and we've sort of carried along on that momentum since, and the changes downward are significant. I'll point out some other problems with this downward trend.

During this period, the Federal support of university research was provided through a number of agencies, although the National Science Foundation was established to do it first. But DOD, NASA, the Department of Energy and the National Institutes of Health, along with a number of other smaller Federal agencies, all developed large basic research programs and provided funds for university research.

The problems which are now attracting our interest and which need attention, began, in my opinion, in the 1960's. Figure 3 on page 12 shows the downward trend in dollars and it shows the Federal expenditures on university research reached a peak of about \$1.5 billion in 1968, dropped down in the 1970's. It has come up some since, but you will see the recent upward trend, since 1978, is no where near as sharp as it had been prior to 1968. And that sharp increase in research and development really provided a strong impetus to our economy and in my opinion we have got to get back up on a higher level.



DOD MAJOR PARTICIPANT IN RESEARCH PROGRAMS

Now, the Department of Defense was one of the major participants in research programs and for a long time all of the major DOD research and development programs provided a portion of the funding to be used for independent research: research, in the judgment of the contractors, that would be useful. This was done partly to encourage commercial fallout from defense research, partly also from the fact that a great deal of the good research comes from unstructured work. Somebody comes up with a new idea that is related to something he is doing. If he has a chance to pursue that, it may be a very important contribution.

Now, this program was ended by the Mansfield amendment in 1970. This was kind of an outcome of the trauma of Vietnam, and it has had a strong negative impact on DoD support of basic research since. Now, that amendment has been taken off the books, but the impact from it is still there.

HIGH ENERGY PHYSICS TOO COSTLY

Federal support of high energy physics had reached a high level by this time, and during the 1970's the energy crisis resulted in large increases in Department of Energy research funding. Medical research support also grew rapidly during this period.

Now, I would like to point out that the work in high energy physics, while it did achieve some very exciting things in understanding about the structure of nature, made essentially no useful contribution to the strength of our economy, and this is one of the

things I think you folks ought to take a look at. We have been putting too much money on these esoteric things. They have a big public attraction but the price has been that we have overlooked some of the fundamental research which would provide a more effective contribution to our economy.

Medical research, of course, has made a very large contribution during this period, and accomplished some very exciting things, but, I might point out also that everyone of these new medicines that they uncover is very expensive and this adds to the cost of our medical programs. So it has not been helping the economy in keeping costs down but it has added jobs. I don't recommend any change in support levels for medical research however.

I think what happened in this period was, without any question, that the demands for Federal supported research increased far beyond the funding that was made available. At the same time, the cost of research increased rapidly. Research that could be done with inexpensive facilities and equipment has simply all been done, and you got to the place where you simply had to spend more money to do research at the frontier. I've often recalled a time when our company got started, we needed a few hundred dollars worth of instrumentation, and today you have to have \$2 or \$3 million of instrumentation to start a company in the electronics business.

In the effort to control cost: the Federal agencies attempted to do a number of things. They required cost sharing, added extensive reporting and supervision with a hope that more oversight would control cost, and in fact all it did was add to the cost. This resulted in a situation in which the Federal Government was not paying the full cost of the university research it was using. Universities were putting off maintenance and repair of their facilities, were not able to acquire as much modern scientific equipment as they needed to do their work, and so we have a very serious problem.

PROBLEM INVOLVES SYSTEM OF HIGHER EDUCATION

Now, so far I've talked about university research, but the problem involves not only our major research universities but our entire system of higher education. University research is important, not only because the research is being done, but also because it is the main source of scientists and engineers who will be the professors of these universities in the future. In fact, this is the most important source of professors in technical fields for all of our colleges and universities. Our graduate students work on major research projects with their professors and thus learn how to do research. I want to point out here, table 2, page 13 of this report: In the period from 1968, the number of scientists and engineers in universities and colleges—this is roughly the faculty people—from 1968 to 1975, went up from 66,000 to 71,000—virtually no increase. And during the same period the percentage of foreign students increased to nearly 45 percent of the total. There is a chart in here that shows the increase in foreign students.

Now, this is a very interesting situation because here we find one of our great national assets, educating young people who will go back to their countries and develop competition for us, and I think

one of the things that we simply have to do is to find some way to get more of the doctorate degree candidates from American students. This situation has come about for a couple of reasons. One of them is that the opportunities for engineers in the economy—engineers that have masters degrees is as great as it is for those who have doctors degrees. So most students find it's not worth spending the extra time and money to go on and get their doctors degree.

TABLE 2
FULL-TIME EQUIVALENT (FTE) SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT, BY SECTOR:
SELECTED YEARS¹

Sector	1954	1958	1961	1965	1968	1969	1970	1971	1972	1973	1974	1975 ²
Total	237.1	354.6	425.7	494.1	550.4	558.2	549.6	529.8	521.9	521.1	527.2	530.5
Federal Government ³	37.7	46.0	51.1	61.8	68.1	69.9	69.8	66.5	65.2	62.3	65.0	64.5
Industry ⁴	164.1	256.1	312.0	348.4	381.9	385.6	375.5	358.4	353.3	357.4	357.9	358.0
Universities & Colleges total	25.0	36.5	42.4	53.4	66.0	68.3	68.5	68.4	66.5	64.8	66.7	71.0
Scientists and engineers	20.3	29.2	33.6	40.4	49.0	50.4	50.3	49.8	48.9	43.2	49.2	52.6
Graduate students ⁵	4.7	7.3	8.8	13.0	17.0	17.9	18.2	18.6	17.6	16.6	17.5	18.4
University associated												
FFRDCs, total	5.0	8.1	9.1	11.1	11.2	11.6	11.5	11.5	11.7	12.0	12.1	12.8
Scientists and engineers	4.9	7.9	8.8	10.7	10.7	11.1	11.0	11.0	11.3	11.7	11.8	12.4
Graduate students ⁶	1	2	3	4	4	5	5	5	4	3	3	4
Other nonprofit institutions ⁷	5.3	7.9	11.1	19.4	23.2	22.8	24.3	25.0	25.2	24.6	25.5	24.2

¹Number of full-time employees plus the FTE of part-time employees. Excludes scientists and engineers employed in State and local government agencies.

²Estimate.

³Includes both civilian and military service personnel and managers of R&D. Military R&D scientists and engineers in the Department of Defense were estimated at 7,000 in 1954, 8,400 in 1958, 9,200 in 1961, 12,000 in 1965, 13,000 in 1968, 14,000 in 1969 and 1970, 12,000 in 1971, 10,700 in 1972, 8,100 in 1973, 7,600 in 1974, and 7,700 in 1975.

⁴Includes professional R&D personnel employed at FFRDC's administered by organizations in the sector.

⁵Excludes social scientists.

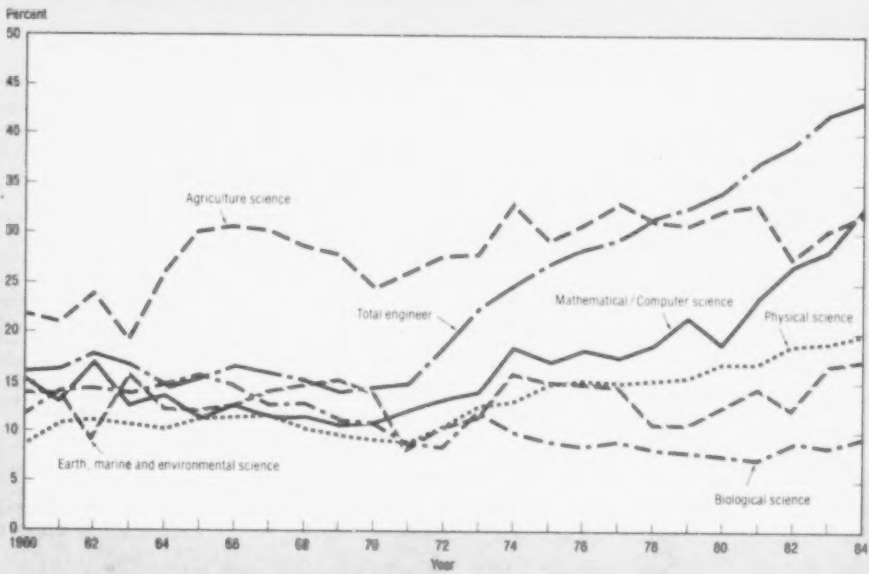
⁶Numbers of FTE graduate students receiving stipends and engaged in R&D.

⁷Includes estimate for R&D scientists and engineers employed in State affiliated institutions such as hospitals, museums, etc.

NOTE: The figures for the industry sector represent yearly averages and may differ from other data in the text which is based upon surveys reporting the employment in a single month of the year. Data in the text exclude historians, political scientists, and other social scientists.

SOURCE: National Patterns of R&D Resources.

Figure 9
Percent of national science and engineering doctoral degrees received by non-resident
foreigners, selected disciplines: 1960-1984



SOURCE: "Foreign Citizens in U.S. Science and Engineering: History, Status, and Outlook," Prepared by: National Science Foundation, Directorate for Research, Technology, and International Affairs, Division of Science Resource Studies, Table 6-11.

This is a serious problem and more scholarship support will help. There's one other reason why this has happened, and it is because industry often has better facilities and better equipment than universities. So the young people can see a better opportunity to do research coming with a company such as ours than they have at the university.

LOANS AWARDED TO DOCTORATE DEGREE CANDIDATES

Now, both of these things, I think, can be corrected to some extent. One thing that industry is doing: Our company is awarding loans to doctorate degree candidates—half of the loan is actually forgiven, half as a grant, half as a loan. The other half is forgiven if the student completes his doctorate degree and goes on and teaches at least 3 years in an accredited university. This is a leverage you might consider putting in whatever support you would want to provide more scholarship money for doctor degree students.

Now, it's important that you look at this educational problem on a broad basis and not as a problem of specific colleges and universities in specific areas. For example, half of the students seeking doctors degrees at our major research universities come from the small liberal arts colleges across the country. These colleges have very limited research programs but they have a few distinguished professors and it is very important that these distinguished professors at these small schools receive an appropriate share of Federal support. They contribute not only good research but they are an indispensable influence in encouraging young people at these colleges to select a career in a technical field.

I hope you will conclude from what I've said that this is a large and a complex issue, and it's important that it be looked at on a broad basis.

ALLOCATE FUNDS EVENLY

Now, I have some specific suggestions. The first one has to deal with the Congress. There's been too much log rolling in applying funds influenced by people who do good lobbying for a specific institution, and I would encourage you to be very careful in considering additional support that attention is given to the breadth and depth of this problem. And I hope that you will develop and use some kind of a peer review procedure in allocating funds for facilities and equipment and such other things you may decide to do.

I think you can use established organizations such as the National Science Foundation, the National Academy of Sciences, the National Academy of Engineers or others, but it's very important that the support be directed with an even hand. It will be much more effective that way.

Now, there are several specific suggestions I want to make. I have here an addendum, figures for the administration's recommendations for the fiscal year 1988 budget. I'll note here that the National Science Foundation received a significant increase. I hope you will not only support that, but I hope you will go back and look at their original request. I went over this carefully myself with Eric Bloch, and I think he has some important things and—as a

matter of fact, I recommended to the administration that they approve the full National Science Foundation request, and I'm asking you to look at that and consider increasing the administration's request.

One of the unfortunate things you'll see is that there is very little increase in the Defense Department budget. It's up a little bit from 1987, but it's below 1986. And this has to do with the fact that the 6.1 program in the defense budget does not have any strong advocates in the department. I guess I'm remiss in not pushing this issue stronger with the Commission on Defense Management. But I learned that they were not going to ask for an increase too late and I tried to get them to do so.

DOD SHOULD PROVIDE SUPPORT

I simply point out to you that the Defense Department is one of the larger, if not the largest user of scientific talent in the country and of basic research and it seems to me that we ought to ask them to provide their appropriate support of universities and colleges in that sort of research which is really the foundation on which they are depending for all of their new weapons programs.

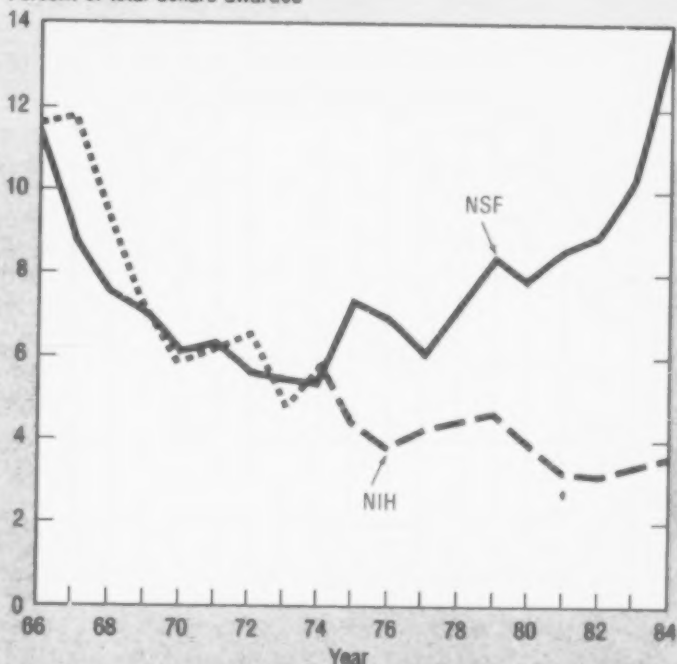
So I hope that you'll take this matter into consideration. I'm quite sure there are other places in the defense budget where reductions can be made and so this can be done without increasing the total at all.

In the health area I think their support is adequate. There's one problem there, that the National Institutes of Health has not been providing adequate support for laboratory equipment. If you look on page 14, figure 5, you'll see that the percent of the dollars awarded that were available for laboratory equipment back in 1966 and 1968 were in the 8 to 12 percent range. NIH has been going down ever since. The National Science Foundation reversed this trend, and they're back up in the direction where they should be.

Figure 5

Proportion of NSF and NIH grant funds allocated for permanent laboratory equipment

Percent of total dollars awarded



■ NIH estimate for 1966 through 1974 includes only data from the National Cancer Institute, the National Institute of General Medical Sciences, and the National Heart and Lung Institute.

SOURCE: The NSF data is obtained from *Science Indicators*, 1974, and Jim Hoehn, personal communication. The NIH data through 1974 is obtained from *Science Indicators*, 1974. After 1974, the data is from the internal NIH files, and reflects the total contribution of grant funds to equipment.

Now, the NIH problem is that they have so many important programs they just have a hard time getting the money to go all around, and they're just stretching it too far. And I think it would be very wise to allocate this money on a more effective basis even though this might require a reduction or elimination of low priority programs.

The Department of Energy support of research should be increased and here the Department of Energy has a problem. They simply have far too much administration of the research that they are funding. They require more reporting, and they have field offices that supervise research projects as though they were construction projects. And here is a place where I think you should push them in the direction of allocating more of their money to research and taking it out of their administrative budget. If you can help with this problem, it will be a great thing.

BASIC RESEARCH MORE IMPORTANT

Now, NASA is another question. Many people believe that tremendous pressure in trying to keep the space shuttle going has caused NASA to reduce their emphasis on basic research. If so, I think this is a situation that needs to be corrected.

Now, I may not be very popular for saying this, but I think some more basic research in this area is more important than getting the shuttle back on schedule or in getting a space station in place with any particular timetable. I probably don't get much support from other people on that, but I will express my view for what it is worth.

In summary, I don't believe it is possible to do everything that might be indicated as needed. But the universities have an indispensable role in keeping our country ahead in technological and industrial competition. And I would hope that in addressing this budget problem you have that you will place this situation at a level of a very high priority, and I would hope that you might consider adding at least a billion dollars to this \$9.01 billion that is in the administration request. And I think you can do that without adding to the total. I am sure that much can come out of other places that have a much lower priority for the welfare of our country.

MATCHING BY INDUSTRY

Now, one final thing. Matching by industry has become much more broadly used, and I think that the majority of the funds the Federal Government provide should be done on a matching basis. This means you have the industry that has looked into a program. If they think it is worthwhile, worth supporting, they have a reason to do so. This, of course, will make the money go further, and I think matching should be a requirement for contributions for additional facilities and equipment. I think it should be a contribution for additional support of other kinds as you may wish to make.

And I think that this is an area where we have had a good record of performance indicating that our colleges and universities have made immense contributions to the progress of our country, in the economic area, in health, in defense and in the arts and humanities. We are not quite keeping up, and of all of the things that I have seen which will get us back on the competitive plane where we should be, I think the health of our colleges and universities is the one that should have the highest priority.

Thank you very much.

Chairman CHILES. Thank you, sir.

[The prepared statement of Mr. Packard follows:]

STATEMENT OF

DAVID PACKARD, CHAIRMAN OF THE BOARD
HEWLETT-PACKARD COMPANY, PALO ALTO, CALIFORNIA

BEFORE THE

COMMITTEE ON THE BUDGET
UNITED STATES SENATE

FEBRUARY 17, 1987

MR. CHAIRMAN AND MEMBERS OF THE SENATE COMMITTEE ON THE BUDGET, I AM PLEASED TO HAVE THE OPPORTUNITY TO BE HERE TODAY. WITH THE VAST AMOUNT OF MONEY IN THE FEDERAL BUDGET I BELIEVE IT IS VERY IMPORTANT TO MAKE SURE ADEQUATE FUNDS ARE INCLUDED TO DO THOSE THINGS WHICH HELP OUR COUNTRY IN INTELLECTUAL, TECHNOLOGICAL AND INDUSTRIAL COMPETITION IN THE INTERNATIONAL MARKET PLACE. IT IS IMPORTANT TO DO THOSE THINGS WHICH CAN HELP WITH OUR SHORT TERM PROBLEMS IN THIS AREA AND IT IS OF GREAT IMPORTANCE THAT OUR CONSIDERATIONS INCLUDE THE NEEDS AND THE OPPORTUNITIES OF THE NEXT GENERATION.

YOU HAVE ASKED FOR MY VIEWS ON PROGRAMS AT THE MAJOR RESEARCH UNIVERSITIES. THIS SUBJECT WAS STUDIED IN CONSIDERABLE DETAIL BY A PANEL OF THE WHITE HOUSE SCIENCE COUNCIL. THIS PANEL INCLUDED THIRTEEN DISTINGUISHED SCIENTISTS AND EDUCATORS WHO WORKED FOR OVER THREE YEARS AND MADE A NUMBER OF VERY IMPORTANT RECOMMENDATIONS. I WOULD LIKE TO ASK THAT THIS REPORT BE INCLUDED IN THE RECORD OF THESE HEARINGS.

I WANT TO BEGIN MY REMARKS WITH SOME OBSERVATIONS OF THE PROBLEMS OUR COUNTRY IS FACING IN OUR DOMESTIC ECONOMY AND IN THE INTERNATIONAL MARKET PLACE.

THE UNITED STATES HAS HAD A REMARKABLE RECORD OF INTELLECTUAL, TECHNOLOGICAL AND INDUSTRIAL DEVELOPMENT OVER THESE TWO CENTURIES SINCE WE BECAME A NATION. WE WERE BLESSED WITH VAST NATIONAL RESOURCES, WITH PEOPLE WHO CAME TO SEEK NEW OPPORTUNITIES, WILLING TO FACE HARDSHIP AND WORK HARD TO MAKE A BETTER FUTURE FOR THEMSELVES AND THEIR FAMILIES.

THEY HAD A HIGH RESPECT FOR EDUCATION AND THE RECORD OF OUR HISTORY CLEARLY INDICATES THAT EDUCATION IN AMERICA DEVELOPED IN A VERY DIFFERENT PATTERN FROM THAT IN THE EUROPEAN COUNTRIES WHERE MOST OF OUR EARLY LEADERS WERE EDUCATED. ONE OF THE UNIQUE CHARACTERISTICS OF SCIENTIFIC EDUCATION IN AMERICAN COLLEGES AND UNIVERSITIES HAS BEEN AN EMPHASIS ON THE APPLICATION OF SCIENTIFIC KNOWLEDGE AS WELL AS THE EXPANSION OF SCIENTIFIC KNOWLEDGE. THIS IS IN CONTRAST TO UNIVERSITIES IN EUROPE AND JAPAN WHERE THE EMPHASIS HAS BEEN MUCH MORE ON THE

DISCOVERY OF SCIENTIFIC KNOWLEDGE RATHER THAN ITS APPLICATION. THE LAND GRANT COLLEGES WERE ESTABLISHED NOT SIMPLY TO EXPAND SCIENTIFIC KNOWLEDGE ABOUT AGRICULTURE BUT TO MAKE THE SCIENTIFIC KNOWLEDGE AVAILABLE TO FARMERS ALL ACROSS THE COUNTRY. THIS IS WITHOUT THE SLIGHTEST DOUBT THE REASON WHY AMERICAN AGRICULTURE HAS BEEN SO SUCCESSFUL. THERE ARE MANY COMPARABLE EXAMPLES IN OTHER AREAS OF OUR ECONOMY. THE DEVELOPMENT OF ELECTRICAL POWER, ITS GENERATION, ITS DISTRIBUTION AND ITS UNIVERSAL USE IN INDUSTRY, IN FARMING AND IN THE HOME WAS SO SUCCESSFUL BECAUSE OUR UNIVERSITIES DEVELOPED MUCH OF THE THEORY AND EDUCATED THE SCIENTISTS AND ENGINEERS WHO DESIGNED AND BUILT POWER PLANTS, TRANSMISSION LINES AND ALL THE ELECTRICAL DEVICES THAT ARE AVAILABLE TO US.

I HAVE ALLUDED TO THE ROLE OF OUR UNIVERSITIES IN AGRICULTURE AND IN ELECTRICAL DEVELOPMENT TO EMPHASIZE THAT THE CONTRIBUTIONS OF OUR UNIVERSITIES TO OUR WELFARE ARE NOT OF RECENT ORIGIN. WE TEND TO THINK OF THE POST WORLD WAR II CONTRIBUTIONS OF OUR UNIVERSITIES AS BEING UNIQUE, AND THE FEDERAL SUPPORT OF UNIVERSITIES HAS GREATLY EXPANDED SINCE WORLD WAR II, BUT OUR UNIVERSITIES

HAVE A LONG AND DISTINGUISHED RECORD OF SERVICE TO OUR SOCIETY.

WE ARE LIVING AT A TIME OF RAPID CHANGE IN OUR SCIENTIFIC KNOWLEDGE AND FOR THAT REASON, CONTINUING EDUCATION IS IMPORTANT. WHEN I STUDIED ENGINEERING AT STANFORD THERE WERE NO TRANSISTORS, NO ELECTRONIC COMPUTERS, NO TELEVISION, NO JET ENGINES, NO GENETIC ENGINEERING. TO BE SUCCESSFUL ONE HAS TO CONSIDER EDUCATION AS A CONTINUING PROCESS. OUR EDUCATIONAL SYSTEM INCLUDES A GREAT DEAL OF WHAT IS GENERALLY CALLED ADULT EDUCATION, AND IT IS OBVIOUS WHY THIS IS SO IMPORTANT.

WE ARE ALSO LIVING IN A TIME OF RAPID CHANGE IN OUR ECONOMY. THE HEAVY INDUSTRIES ARE BECOMING A SMALLER PART OF INDUSTRY, ALTHOUGH STILL AN ESSENTIAL PART. THE SERVICE INDUSTRIES ARE EXPANDING AT A RAPID PACE. THIS IS A WATERSHED CHANGE THAT IS CHARACTERIZED BY ONE VERY IMPORTANT FACT. RAW MATERIALS AND NATURAL RESOURCES ARE NO LONGER THE FOUNDATION OF OUR ECONOMY. KNOWLEDGE IS NOW THE MOST IMPORTANT ELEMENT IN OUR ECONOMY. IT IS FOR THIS REASON THE HEALTH OF U. S. COLLEGES AND UNIVERSITIES IS AMONG THE HIGHEST PRIORITIES OF OUR

NATION.

THE WORK OF OUR PANEL INDICATED THAT WE STILL ENJOY THE WORLD'S STRONGEST SCIENTIFIC AND TECHNOLOGICAL ENTERPRISE, TO WHICH OUR COLLEGES AND UNIVERSITIES ARE ABSOLUTELY ESSENTIAL. WE ALSO CONCLUDED THAT THERE ARE DISTURBING PROBLEMS AND QUESTIONS ABOUT THE SHORT AND LONG TERM HEALTH OF THIS ENTERPRISE INCLUDING OUR COLLEGES AND UNIVERSITIES.

THE LEVEL OF FEDERAL SUPPORT FOR UNIVERSITY RESEARCH WAS INCREASED AFTER WORLD WAR II AND THE PRESENT PATTERN OF FEDERAL SUPPORT HAS EVOLVED SINCE THAT TIME. VANNENAR BUSH, WHO WAS GREATLY IMPRESSED BY THE GREAT CONTRIBUTION SCIENTISTS AND ENGINEERS FROM OUR UNIVERSITIES HAD MADE TO THE SUCCESSFUL WAR EFFORT, RECOMMENDED THAT A FEDERAL POLICY BE ESTABLISHED FOR THE SUPPORT OF UNIVERSITY RESEARCH IN THE POST WAR PERIOD.

IT IS IMPORTANT TO NOTE THAT THE RESEARCH PROGRAM DURING THE WAR UNDER DR. BUSH'S GUIDANCE WAS FUNDED WITH BLOCK GRANTS AND THE SCIENTISTS AND ENGINEERS WORKED WITHOUT DETAILED DIRECTION AND

GUIDANCE FROM THE GOVERNMENT.

THE OFFICE OF NAVAL RESEARCH HAD AN OUTSTANDING RECORD IN MANAGING RESEARCH DURING THE WAR. THAT OFFICE WAS PUT IN CHARGE OF THE POST WAR EFFORT AND CONTINUED TO ADMINISTER THE FEDERAL SUPPORT OF RESEARCH UNTIL THE NSF WAS ESTABLISHED IN 1950.

FEDERAL EXPENDITURES ON UNIVERSITY RESEARCH EXPANDED RAPIDLY AFTER 1950. THE EVENT OF SPUTNIK ACCELERATED FEDERAL SUPPORT OF UNIVERSITY RESEARCH WHICH REACHED A PEAK IN 1968.

DURING THIS PERIOD FEDERAL SUPPORT OF UNIVERSITY RESEARCH WAS PROVIDED THROUGH A NUMBER OF AGENCIES. THE NSF CONTINUED TO PLAY AN IMPORTANT ROLE BUT DoD, NASA, DoE, AND NIA, ALONG WITH A NUMBER OF OTHER FEDERAL AGENCIES, ALL DEVELOPED LARGE BASIC RESEARCH PROGRAMS AND PROVIDED FUNDS FOR UNIVERSITY RESEARCH.

THE PROBLEMS WHICH ARE NOW ATTRACTING OUR INTEREST AND WHICH NEED ATTENTION BEGAN IN THE 1960s.

THE DEPARTMENT OF DEFENSE WAS ONE OF THE MAJOR PARTICIPANTS IN THIS COUNTRY'S BASIC RESEARCH PROGRAM. THE OFFICE OF NAVAL RESEARCH ESTABLISHED ENLIGHTENED POLICIES WHICH WERE PATTERNED ON THE WORLD WAR II EXPERIENCE. ALL MAJOR RESEARCH AND DEVELOPMENT PROGRAMS PROVIDED A PORTION OF THE FUNDING TO BE USED FOR INDEPENDENT RESEARCH IN ADDITION TO RESEARCH ON THE PARTICULAR PROJECT. THIS WAS DONE TO ENCOURAGE COMMERCIAL FALL OUT FROM DEFENSE RESEARCH. THIS INDEPENDENT RESEARCH PROGRAM WAS ENDED BY THE MANSFIELD AMENDMENT IN 1970. THIS WAS AN OUTCOME OF THE EMOTIONAL TRAUMA OF VIETNAM AND IT HAD A STRONG NEGATIVE IMPACT ON DoD SUPPORT OF BASIC RESEARCH.

FEDERAL SUPPORT OF HIGH ENERGY PHYSICS HAD REACHED A VERY HIGH LEVEL BY THIS TIME AND DURING THE 1970S THE ENERGY CRISIS RESULTED IN LARGE INCREASES IN DoE RESEARCH FUNDING. MEDICAL RESEARCH SUPPORT ALSO GREW RAPIDLY DURING THIS PERIOD.

THE DEMANDS FOR MORE RESEARCH IN NEARLY EVERY AREA OF FEDERAL SUPPORT WERE SIMPLY LARGER

THAN THE FUNDING AVAILABLE.

AT THE SAME TIME THE COST OF BASIC RESEARCH GREW RAPIDLY. THE RESEARCH THAT COULD BE DONE WITH INEXPENSIVE FACILITIES AND EQUIPMENT HAD SIMPLY ALL BEEN DONE.

IN THE EFFORT TO CONTROL COSTS THE FEDERAL AGENCIES ATTEMPTED TO REQUIRE COST SHARING, ADDED EXTENSIVE REPORTING AND SUPERVISION. THIS RESULTED IN THE SITUATION THAT THE FEDERAL GOVERNMENT WAS NOT PAYING FOR THE FULL COST OF THE UNIVERSITY RESEARCH THEY WERE USING. UNIVERSITIES WERE PUTTING OFF MAINTENANCE AND REPAIR OF THEIR FACILITIES AND WERE NOT ABLE TO ACQUIRE AS MUCH MODERN SCIENTIFIC EQUIPMENT AS THEY NEEDED TO DO THEIR WORK.

IN CONSIDERING WHAT SHOULD BE DONE ABOUT THIS PROBLEM, I WANT TO GIVE YOU A MORE SPECIFIC IDEA OF WHAT IS INVOLVED.

I HAVE SO FAR TALKED ABOUT UNIVERSITY RESEARCH BUT THE PROBLEM INVOLVES NOT ONLY OUR MAJOR RESEARCH UNIVERSITIES BUT OUR ENTIRE SYSTEM

OF HIGHER EDUCATION.

UNIVERSITY RESEARCH IS IMPORTANT NOT ONLY BECAUSE OF THE RESEARCH THAT IS BEING DONE BUT BECAUSE IT IS THE MAIN SOURCE OF THE SCIENTISTS AND ENGINEERS WHO WILL BE THE PROFESSORS OF THESE UNIVERSITIES IN THE FUTURE - IN FACT, THIS IS THE MOST IMPORTANT SOURCE OF PROFESSORS IN TECHNICAL FIELDS OF ALL OF OUR COLLEGES AND UNIVERSITIES.

THE GRADUATE STUDENTS WORK ON MAJOR RESEARCH PROJECTS WITH THEIR PROFESSORS AND THUS LEARN HOW TO DO RESEARCH. BY 1984 NEARLY 45% OF THOSE STUDENTS RECEIVING DOCTORAL DEGREES WERE FOREIGNERS. THUS WE FIND A SITUATION IN WHICH THIS GREAT NATIONAL ASSET IS EDUCATING PEOPLE WHO WILL GO BACK TO THEIR HOME COUNTRIES AND DEVELOP COMPETITION FOR US. IT SHOULD BE NOTED THAT MANY OF THESE DOCTORAL DEGREE STUDENTS ARE JAPANESE.

THIS SITUATION HAS COME ABOUT PARTLY BECAUSE THE OPPORTUNITIES FOR ENGINEERS AND SCIENTISTS WITH ONLY MASTERS DEGREES ARE ALMOST AS GOOD AS THOSE WITH DOCTORS DEGREES. THIS IS A VERY SERIOUS PROBLEM AND MORE SCHOLARSHIP SUPPORT WILL

BE NECESSARY TO BRING ABOUT SOME CORRECTION.

ABOUT HALF OF THE STUDENTS SEEKING DOCTORS DEGREES COME FROM THE SMALL LIBERAL ARTS COLLEGES ALL ACROSS THE COUNTRY. THESE COLLEGES HAVE VERY LIMITED RESEARCH PROGRAMS BUT THEY USUALLY HAVE A FEW DISTINGUISHED PROFESSORS AND IT IS VERY IMPORTANT THAT THESE PEOPLE RECEIVE AN APPROPRIATE SHARE OF FEDERAL SUPPORT. THEY CONTRIBUTE NOT ONLY GOOD RESEARCH BUT ARE AN INDISPENSABLE INFLUENCE IN ENCOURAGING YOUNG PEOPLE AT THESE COLLEGES TO SELECT A CAREER IN A TECHNICAL FIELD.

I HOPE YOU WILL CONCLUDE FROM WHAT I HAVE SAID THAT THIS IS A LARGE, COMPLEX AND VERY IMPORTANT ISSUE.

NOW FOR SOME SPECIFIC SUGGESTIONS. THERE HAS BEEN A TENDENCY OF THE CONGRESS TO DO TOO MUCH LOG ROLLING IN SUPPORTING UNIVERSITY RESEARCH. FEDERAL SUPPORT SHOULD BE CAREFULLY CONSIDERED AND SHOULD BE GIVEN IN WAYS THAT ADDRESS THE BREADTH AND COMPLEXITY OF THE PROBLEM. I HOPE YOU WILL USE A PEER REVIEW PROCEDURE IN ALLOCATING FUNDS FOR

FACILITIES AND EQUIPMENT.

I FEEL VERY STRONGLY THAT THE FEDERAL GOVERNMENT SHOULD INCREASE ITS COMMITMENT TO BASIC RESEARCH IN GENERAL AND TO THE NEEDS OF THE UNIVERSITIES IN PARTICULAR.

I WOULD LIKE TO GIVE YOU MY RECOMMENDATIONS ON SOME SPECIFIC SITUATIONS.

THE DoD REQUEST FOR FY88 IS \$907 MILLION (6.1). THAT IS ACTUALLY BELOW THE FY86 LEVEL OF \$921 MILLION. UNFORTUNATELY, THE 6.1 AREA DOES NOT HAVE STRONG ADVOCACY IN THE PENTAGON. I RECOMMENDED THAT THERE SHOULD BE AT LEAST \$500 MILLION ADDED AND SINCE THE OFFICE OF THE SECRETARY FAILED TO DO THIS I ENCOURAGE YOU TO DO SO.

IN THE HEALTH AREA I THINK THE SUPPORT IS ADEQUATE AND USUALLY THE CONGRESS GIVES THEM MORE THAN THEY ASK FOR.

DoE SUPPORT OF RESEARCH SHOULD BE INCREASED AND THE AMOUNT OF SUPERVISION THEY GIVE NEW UNIVERSITY PROGRAMS SHOULD BE SUBSTANTIALLY

REDUCED. IF THE CONGRESS COULD PUSH THEM IN THIS DIRECTION, IT WOULD BE GREAT.

THE NSF SHOULD BE GIVEN EXTRA CONSIDERATION FOR THEY HAVE A BROAD CHARTER TO DIRECT RESEARCH IN WAYS THAT WILL HELP OUR OVERALL TECHNOLOGICAL LEADERSHIP. THE ADMINISTRATION HAS SUPPORTED A 17% INCREASE FROM FY87 TO FY88 AND PROPOSED THAT THEIR BUDGET BE DOUBLED BY THE EARLY 90S. THEIR BUDGET REQUEST WAS HIGHER AND I BELIEVE THE FULL NSF REQUEST SHOULD BE FUNDED.

THE LEVEL OF BASIC RESEARCH RECOMMENDED FOR NASA FOR FY88 IS 5% BELOW FY87. MANY PEOPLE BELIEVE THE TREMENDOUS PRESSURE IN TRYING TO MAINTAIN THE SPACE SHUTTLE PROGRAM HAS CAUSED THEM TO REDUCE THEIR EMPHASIS ON BASIC RESEARCH. IF SO, THIS IS A SITUATION THAT NEEDS TO BE CORRECTED.

I DO NOT BELIEVE IT IS POSSIBLE OR NECESSARY TO DO EVERYTHING THAT MIGHT BE INDICATED TO SUPPORT OUR UNIVERSITIES IN THEIR INDISPENSABLE ROLE IN KEEPING OUR COUNTRY AHEAD IN TECHNOLOGICAL AND INDUSTRIAL COMPETITION. I WOULD HOPE THAT THE FUNDS FOR BASIC RESEARCH MIGHT BE INCREASED BY AT

LEAST \$1 BILLION ABOVE THE \$9.105 BILLION LEVEL THAT HAS BEEN REQUESTED FOR FY88. I WOULD HOPE THAT MOST OF THAT INCREASE WOULD GO TO THE AREAS WHERE UNIVERSITIES ARE INVOLVED.

THE PANEL'S REPORT INCLUDES RECOMMENDATIONS ON ADDITIONAL SCHOLARSHIP SUPPORT AND I HOPE YOU WILL CONSIDER THAT AREA ALSO.

I REALIZE THE TREMENDOUS RESPONSIBILITY OF THIS COMMITTEE IN DEALING WITH THE BUDGET DEFICIT. I FEEL SURE, HOWEVER, THAT AN ADJUSTMENT OF PRIORITIES WITHIN WHATEVER OVERALL FIGURE IS ESTABLISHED SHOULD BE MADE TO ENABLE OUR UNIVERSITIES AND COLLEGES TO BE STRENGTHENED TO HELP US MEET THE INCREASING INTERNATIONAL COMPETITION WE WILL BE FACING IN THE YEARS AHEAD.

ADDENDUM

OBLIGATIONS FOR BASIC RESEARCH
(\$ MILLIONS)

<u>AGENCY</u>	<u>FY86 ESTIMATE</u>	<u>FY87 ESTIMATE</u>	<u>FY88 ESTIMATE</u>	<u>CHANGE FY87-88</u>
DoD-MILITARY	921	858	907	+ 6%
FUNCTIONS				
HHS	3,334	3,663	3,711	+ 1
(NIH)	(3,118)	(3,360)	(3,442)	+ 2
DOE	964	1,084	1,133	+ 5
NASA	917	1,069	1,016	- 5
NSF	1,259	1,359	1,585	+17
USDA	431	454	454	0
DOI	129	123	115	- 7
EPA	39	38	39	+ 3
DOC	26	24	24	0
ALL OTHER	<u>111</u>	<u>121</u>	<u>122</u>	<u>+ 1</u>
TOTAL	8,132	8,794	9,105	+ 4

SOURCE: SPECIAL ANALYSIS K OF THE BUDGET

Chairman CHILES. Dr. Reed.

**STATEMENT OF DR. CHARLES B. REED, CHANCELLOR, STATE
UNIVERSITY SYSTEM OF FLORIDA**

Dr. REED. Good morning, Mr. Chairman and Senators. I appreciate this opportunity to address you on the state of the American educational enterprise.

I am frequently asked how Federal and State education policy can be used to encourage economic growth and development. To me that question is off the mark.

It is like asking how a good defense can help an NFL football team win the Super Bowl. The reality is that you cannot win the Super Bowl without an outstanding defensive team. It is not an aid, it is a requirement.

And the reality is that America cannot sustain economic growth without an outstanding educational enterprise. It, too, is not an aid, it is a requirement.

Our competition in the world economy understands this.

Eight days from now, my Vice Chancellor for Administrative Affairs will travel to Japan with a party of administrators representing 40 American colleges and universities. In Japan the government will offer them vacant land and office space in 30 Japanese communities. Banks will offer low interest loans and attractive lease-back arrangements for construction and renovation of educational facilities. Japanese corporations will offer endowed chairs and support for Japanese students to attend branch campuses of American universities to be established in Japan.

At the same time as American higher education is being recruited to Japan, this Senate Budget Committee will be considering cuts in student financial aid proposed by the Reagan administration. If enacted, these cuts will reduce student enrollment and guarantee that American colleges and universities will have excess capacity available for export.

Something is wrong here.

Senators, think about this: the Japanese are recruiting the resources of American higher education for the benefit of Japanese students, while the Congress debates a reduction in support for American students to access these same resources.

Are we playing in the same game?

If we are, it is time for us to call a time out, to step back and assess our strategy in the international economic arena, to review scouting reports on the strategies of our competitors, and to develop an overall strategic plan for our nation's educational enterprise.

THE EDUCATIONAL PARTNERSHIP AND ECONOMIC DEVELOPMENT

The American educational enterprise is a partnership of the Federal and State governments, school districts, private elementary and secondary schools, vocational schools, public and private institutions of higher learning, and the private sector, especially the business community.

This partnership fields America's team in the international economic arena. It provides the necessary foundation for the development of the products that we enter into that arena. The success of

our team requires cohesiveness among the partners: commitment to common goals, strategies and performance. The most successful of our competitors exhibit a high degree of cohesiveness among the government, industry and education sectors.

We in Florida feel that we exemplify the relationship between a cohesive educational enterprise and successful economic development. Just 10 years ago Florida ranked last among the Southern States in manufacturing employment. Our economy was based upon agriculture, tourism and construction. We were a low wage economy—an economically poor State.

Florida is a poor State no longer.

The business, political and educational leadership of the State formed a coalition in support of economic development, and specifically targeted high technology industry as a growth area. We found that high technology industry had significant educational needs:

Quality university science and engineering programs to provide an employment pool of skilled scientists and engineers;

Quality high technology research programs to produce a knowledge base to support development of new products in state-of-the-art basic and applied research programs;

Quality vocational education programs to provide an employment pool skilled technicians; and

Quality public schools to produce secondary graduates capable of entering demanding postsecondary vocational and university programs, and to offer quality education for the children of employees of new high tech companies.

THE "EDUCATION MEANS BUSINESS" COALITION

An agenda of educational reform was established by the "Education Means Business" coalition. The details of these reforms appear on page 3 of my prepared testimony.

In addition, I would add that the Board of Regents and the Florida High Technology and Industry Council have jointly developed a 5-year plan for high technology research, targeting one simple goal:

To identify the very next question in seven key technological areas which industry needs to answer in order to make new products and put Floridians to work making them.

I have provided copies of our joint report for your review, Mr. Chairman, and ask that this copy be placed in the record.¹

The 1986 Florida Legislature authorized faculty members at State which spin off from their research efforts on the campus.

We have already seen some significant results from this approach.

These businesses produce products ranging from automatic seedling transplanters to a bacterial identification kit for NASA astronauts to use in space, to coal-gas combustion systems.

Let me give you just three examples from your own alma mater, Mr. Chairman:

Charles Proctor of the UF mechanical engineering department is developing a new soil decontamination process.

¹ See p. 322.

Sam Colgate of the UF chemistry department has devised a new kind of low-cost, high-performance metal gasket for pressure- and vacuum systems.

And as a Gator, Senator, I know you'll be pleased to know that Paul Cardeilhac, in veterinary science, has developed new techniques in alligator propagation.

Reaching this stage required a coalition of business, government and educational leadership in Florida. This coalition put together a cohesive plan for Florida's educational enterprise—and generated resources to implement the Plan, through expanded public and private support. This included the support of the business community and the general public for tax increases for educational improvements.

What impact has this unified support of the educational enterprise in Florida had on economic development?

For the last 5 years Florida has led the Nation in average annual rate of growth in employment in high technology industry and in new high tech companies established. Ten years ago we ranked last in the Southeast in the rate of growth in manufacturing jobs. Last year we ranked third in the Nation.

Florida currently leads the Southeast and last year passed Pennsylvania to rank sixth in the Nation in high tech employment. If current growth rates hold, Florida will soon be the Nation's fourth largest high tech State, behind California, Texas, and Massachusetts.

In 10 years Florida has added a high technology manufacturing sector to an economy previously dominated by agriculture, tourism and construction. High tech now accounts for a third of the State's manufacturing jobs.

Factors other than education certainly contributed to economic expansion in Florida. The re-emergence of the space program, increased Federal investment in defense industry, and industrial migration were major contributing forces.

The fact remains that translation of these forces into jobs could not have been accomplished without Florida's commitment to education.

Education made Florida a successful competitor in the national economic arena.

Education can make the United States a successful competitor in the international economic arena.

But something needs to be done first:

The American educational enterprise—the partnership of the Federal and State governments, the schools and the private sector—does not today exhibit the cohesiveness of goals, strategies and performance that will maximize our ability to compete in the world economy.

Like any partnership, the American educational enterprise has stress points that center around issues of cost, quality control and accountability.

At the Federal level, concern over the budget deficit has made the cost of Federal education programs a major stress point. Education Secretary Bennett suggest that Federal support of student financial aid programs has caused unwarranted increases in university tuition rates.

I suppose that it is possible to draw that conclusion because over the years both tuition rates and Federal financial aid have increased. But if one looks just a little further beyond those statistics, the fallacy of Secretary Bennett's logic becomes obvious.

First, let us look at the rising costs of college in perspective. From 1970 to 1985, State appropriations to Florida universities increased 316 percent. Tuition increased 95 percent. Over the same 15-year period, State appropriations for health and rehabilitative services increased 507 percent, appropriations for prisons increased 1,115 percent and appropriations for the judiciary increased 1,232 percent. These data hardly support a claim of "skyrocketing" college costs.

Next, let us look at the components of college costs. Faculty salaries, the largest single component, have not kept pace with inflation rates since 1970. Purchases to upgrade scientific and technical equipment, computer hardware and software, and library resources generate substantial pressure for budget increases. Maintenance costs for highly technical equipment, and building maintenance and utility costs also put pressure on budgets. A recent national survey reported 90 percent increases in college insurance rates over the last 2 years.

The notion that our universities have grown "fat" by feeding on Federal financial aid is ludicrous. I invite a serious inquiry into college costs by the administration or the Congress. I believe that such an inquiry would be helpful to rebuilding the cohesiveness of the American educational partnership by focusing on what the costs are and who should bear them.

In Florida, we have established a policy on cost sharing between the State and the student. Our policy is that the State should bear 75 percent of the cost of a college education, State appropriations and the student should bear 25 percent of the cost through tuition and fees.

We propose annual adjustments to tuition rates to maintain this policy. So we can tell you that tuition rates will continue to go up. The Federal Government has entered into the higher education partnership primarily through the provision of financial aid to students. The question that the Congress must face is whether to continue that commitment as tuition costs increase.

Senators, you have a dilemma. You look at the deficit and ask if you can afford your commitment to student financial aid. I urge you to look at the international economic arena and conclude that you cannot afford to back away from your commitment to quality higher education for American students.

We asked the people of Florida if they were willing to pay for quality education, and they said yes. If you ask the people of America, I am confident that they too are willing to pay the price.

One final thought on costs: would Japan be recruiting American higher education to open branch campuses if they felt our product was overpriced?

Another stress point at the Federal level is quality control. Quality is something that we should never take for granted. In Florida, we regularly monitor student achievement and program quality. In the State University System we conduct a formal review of our programs at least once every 5 years. Quality is assessed by a review

team of external consultants recognized for their expertise in the field under evaluation.

The impact of our education reforms of the early 1980's is now evident in student performance. Last week the Department of Education's annual report card on the States indicated that Florida's high school students had the greatest average increase in the Nation in scores on the scholastic aptitude test. The average SAT score of entering freshmen in the State University System exceeds 1,000, with the University of Florida freshman class averaging over 1,100.

PROBLEMS AND CONCERNS

I do not mean to imply that Florida education is problem free. We struggle with one of the highest secondary school dropout rates in the Nation and are experimenting with new programs in student retention authorized last year by the legislature.

We are concerned with drug and alcohol abuse and with the presence and use of firearms on our campuses that took the lives of four of our students last year.

We have aggressive programs for minority recruitment and retention and last year showed increases in the percentages of both black and hispanic minorities attending State universities, contrary to national trends.

THE FEDERAL ROLE IN THE PARTNERSHIP

Overall the educational enterprise in Florida and in America is on solid footing. There is considerable stress in the educational partnership at the Federal level. The role of the Federal Government appears uncertain and tentative. Attention seems to be focused more on programs rather than policies, more on costs rather than goals.

If costs are the primary concern, let us address bold initiatives like prepaid tuition plans, rather than yet another loan program.

Let us encourage early financial planning by parents so that students will not have to mortgage themselves to pay for college. The State of Michigan's prepaid tuition plan awaits an Internal Revenue Service ruling on interest earnings. The Congress should resolve that question and provide the exemption by law.

Let us develop a national research agenda in support of economic development and put the resources in place to carry it out through a mutual partnership of the Federal Government, the States, the business community and American higher education.

Let us consider Federal initiatives to promote private sector support of higher education.

Let us reconsider the decision to tax fellowships of graduate students who forego current earning potential to develop their ability to participate and compete in the knowledge-driven world economy.

Let us renew the partnership that is the American educational enterprise. The decisions that will be made in the committee and by this Congress over the next 6 months will determine the extent to which we maximize our potential to compete in the world economy.

This is the time and this is the place to begin.

Thank you for your attention.

Chairman CHILES. Thank you, Dr. Reed.

Governor Kean.

STATEMENT OF HON. THOMAS H. KEAN, GOVERNOR, STATE OF NEW JERSEY

Governor KEAN. Mr. Chairman, Senator Domenici, our own Senator Lautenberg, and I must say I think any Governor testifying on this subject before this committee would have to recognize Senator Sanford because, after all, he set the example for us all as Governor of his own State in making education the priority.

And since that time, in many ways, the States have made education policy. And that means they also build a foundation for America's economic future. I know that many are calling for large increases in Federal education spending this year. I cannot do that. As Governor, I am all too aware of the need to make choices and to take the consequences of those choices. I might have made the choices somewhat differently than have been made in this budget, but these are choices I know that you will make.

HERE TO DELIVER MESSAGES

I am here today basically to deliver two messages. First, I would like you to recognize the States' leadership in the area of education, and I want you to back it.

And, second, I have some thoughts on what you as a committee could do to prepare us for our economic future.

Someone said that the will to win is the most overrated idea in sports. Everybody has the will to win. What you need is the will to prepare to win. And that is true of nations. And I believe that this Congress must take the actions now to prepare for the United States to win.

It used to be the Federal role to fill the gaps left by the States. Now we fill gaps that the Federal Government leaves, gaps in the budgets and often, frankly, gaps in policy as well.

STATES TAKE OVER EDUCATION REFORMS

It used to be the Federal role to ensure access to education. The States now contribute heavily to this at all levels.

Governors in every State have defined comprehensive education reforms. And our legislatures have invested huge sums for us, an increase of over \$27 billion in the last 6 years alone.

Governors know, you see, that education is the only really basic industry that we have in our States. Everything else rests on it.

Governors have seen at firsthand that our foreign trade rivals act very strongly on that belief, too.

But we are also wary of those who see only the economic side of education. We also know that in this land our educational system supports democratic institutions and the quality of our lives as citizens and as individuals.

The States are years into concrete reforms, and the high level of commitment in the States, I am delighted to say, continues.

States have set higher standards for students, for educators, and also for themselves. More than one Governor has said, as I have

said frankly in New Jersey, "Here is what we will do in education. Now hold me accountable for the results."

We set graduation standards for students. We have committed money to help meet those standards. We have recruited more qualified teachers with higher salaries. We have given them better training, and we have demanded people who have very high qualifications. We monitor district performance. We require corrective action when that action is needed.

We have spotted entrepreneurial opportunities and we have pulled together joint ventures where we get business together with higher education. For instance, in New Jersey, our Science and Technology Commission picks targets, pools the talents of business, education and government, and goes after them. We don't just create job, we create new industries.

We are challenging each sector of higher education. Risk takers, for instance, have come to us in New Jersey, and said, look, we want to create a top rank medical school, or they come to me and say, look, we can make our particular State college the best. I take them up on that. But they know that I plan to measure the results.

And this reform agenda that is out there in the States is continuing to evolve because Governors have listened to and learned from the critics of the first wave of educational reform, people who said, quite rightly, that you can't do it all from the State Capital.

So, we are not stopping at the margins. We are rethinking the way the whole thing works.

This spring, I expect to work with nine New Jersey districts where teachers, unions, board and the administrators will try to reinvent the way a school works. We are trying to get less conflict and more cooperation and, of course, in the end, more performance.

And in New Jersey we think we may have to come to the point where we are going to declare a few districts educationally bankrupt. They are not educating children. And if they don't educate children, we are planning in New Jersey to remove the school board, to remove the administration, and to act directly to make sure those children get a decent education.

Now, we have not done those things by agreeing with all the interests. When I wanted to raise standards for the students, an awful lot of people said, hey, that is going to be unfair to urban children. But I voted with the children. I found the parents of those children did want the standards raised. And those children are now rising to the mark.

Congress is not in a lot of this as yet. So far, much of this is a matter for the States.

AMERICAN COMPETITIVENESS

But I am somewhat concerned about the discussion of American competitiveness that does occupy the Congress. I don't want it to deal simplistically with are very fundamental issues. I don't want the discussion to be narrow. It is too short term and, of course, in the short term, some people are going to win that debate. One party even might win that debate. But, in the long run, we can all lose.

Let me tell you how a State competes. Governors have been in this for a long time.

First, of course, we balance our budget. We have to do that in the States.

We educate our people, we have to educate all of them, children, youth, adults, the gifted, the handicapped, the willing and those who resist us every step of the way.

And while we are speaking of education and competition, we have got to speak for a minute about minority Americans.

We all know, and we have had this repeated to us again and again that, by the end of this century, one-third of us will be minority members. In generations to come, that can be the source of our strength, and it can be the source of our glory. No other nation has that capacity. No other nation has that unrealized richness within. But we are surely not there yet, and we are not even, on the right road. For now we had better admit that we are a developing nation in this area.

STANDARD OF LIVING HINGES ON EDUCATION

Now, everyone says we need a balance between quality and access. I don't even think that is helpful. The whole thing is a matter of quality, the quality of life in America in the very near future. And we cannot have that quality unless the vast majority of Americans are educated to a much greater level than they are today.

What else do we do in the States? Well, we create jobs. We redesign welfare by finding ways to get people in school, and then we find real jobs with a future, jobs that use the skills that we are training these people for. If the kids don't see jobs at the end, you cannot expect performance in schools.

And we must take risks to do this. We have to admit what doesn't work. And when things don't work, we must not fight the problem, we must decide it.

FEDERAL ROLE IN THE NINETIES

All of us, the States, the Congress must admit that we are in this for the long term.

So what is the Federal role in education for the nineties, and how do you prepare to win?

First, I hope you will concentrate on the deficit because I am one of those who believes that if you don't, it is going to destroy everything else we are trying to do together. Governors, and I will be among them, will come here and argue with your priorities, and say don't cut this, don't cut that. We will oppose cuts in certain programs that we consider essential. But, in the end, you will gain our respect for making the hard decisions.

Second, I would ask you to protect the foundation programs. No child in America should go to a school that fails to provide a thorough education, and no adult in America should be denied a college education simply because they don't have the money to afford it.

Chapter 1, Chapter 2, Education for the Handicapped, the Pell grants, the guaranteed student loans, this is the foundation and I will ask you to protect that foundation. I recognize that with the

deficit now before you, I cannot expect you to build greatly on that foundation. But when you get the budget deficit behind you, I know we will be back to ask you to build more on that foundation.

Third, please back innovation. So much thought and effort goes, it seems to me, in keeping things exactly the way they are now in education. Nearly everyone knows that they have to change. Everyone knows that the situation right now is not good enough, that we have to do better. Now, I know Secretary Bennett takes some very hard lumps, but a lot of us really appreciate his capacity to ask questions that everyone else somehow fears to ask, and to demand answers.

American education is not good enough. Let's admit that. And let us then go on to make the necessary changes together.

Fourth, I hope you will notice what we are doing in the States. Try to support us in our efforts. Next week, I am going to ask the Nation's Governors to approve a set of principles that spell out exactly what I mean by support, and it is not money.

Fifth, let's keep our sights just as high as we possibly can. How well are we educating this Nation, and what does the data show? How well could we do? What works? We are very practical people in Governors' offices. We have to be pragmatists. We deal with theory sometimes, but only if it can be put into practice. We can all do things to prepare for a competitive future which we know is before us and still live fully in the present. It requires choices, and your choices are probably as important as anybody's. But sometimes I don't think they are any more important than those a teacher makes every day to find out how to reach that child. Or those of a principal who is trying to turn around a failing school or those of a busy citizen who takes the times to serve on a school board.

I thank you for this opportunity, and I would say that I do believe that the greatest obligation you have is to stare down that deficit.

Thank you very much.

Chairman CHILES. Thank you, Governor.

Senator Wirth was to be our first questioner. He was here first, but he asked me to express his regrets. He had to leave to attend a funeral.

Senator Lautenberg.

Senator LAUTENBERG. Thank you very much, Mr. Chairman.

Governor Kean, welcome. Our Governor from our proud State of New Jersey certainly has a distinguished record on behalf of education. We welcome him and his comments, and the other members of the panel. We have enough material, provocative material here, that we could sit for awhile discussing it.

And Mr. Packard, you like I, come from the industrial sector. One of the things that concerns me, and Governor, this is something that I would like to have you think about as well.

ARE JOBS AVAILABLE FOR THE EDUCATED

We, a couple of weeks ago, heard from Mr. Bloch of the NSF, and someone from the Department of Energy and another researcher. We talked about what it is that encourages people to expand their

education. And the reference was made to the marketplace, that we have young people, people generally looking into career opportunities as they develop their educational programs.

And one of the things that, Mr. Packard, in particular concerns me is this. If we do what we have to by way of educating, providing educational opportunities for people, do we have jobs available for them?

Mr. Tucker, I was struck by your comments, and in terms of what people do when they are finished with school. Are we going to be a nation of thinkers, I think is the question you asked? Well, I really don't think we are. We don't have the structured society that permits that either in terms of size, in terms of need, or in terms of background. Look at the heterogeneity of our country, the beauty, the richness of our country, as the Governor said. But how does everybody fit in? I mean we are not going to be another macro Switzerland with everybody being financial advisors, Heaven forbid, or design engineers or what have you.

Is education alone the answer to the competitiveness problem, or are we trying to get people prepared for a dead end along the way? Do we have to have something else in our society, a factor that says we must prepare, invite people to make investments in manufacturing and capital equipment industries. Should we have those investments so that people can go to work if they do not finish their education, go to work in some relatively modest task after we have trained them?

JOBS AVAILABLE FOR THE BROADLY EDUCATED

Mr. PACKARD. Well, obviously, there are factors in this situation. But I think if you look at education, it is probably the most important element in this whole economics problem we are looking at. For example, if you look at the want ads in the newspaper, there are lots of jobs available. There just aren't enough people with the kind of education needed to fill those jobs. There are shortages all the way across the board.

And it seems to me that indication should start with a very broad foundation because you never know where the future is going to go, and I think that is one of the advantages of our educational system. We have a large number of small liberal arts colleges across the country, and we have the undergraduate programs in those which are in preparation for engineering and scientific work. I think for the most part also have some exposure to the humanities.

So I think education is an important matter.

Now, the creation of new jobs comes about from innovative people who understand the frontiers of technology that generates new industries. That's where the electronic industry came from.

We have now the whole industry of genetic engineering. This came from university people. And the question of how rapid that is going to go ahead is going to depend on how many educated people there are available to do this very highly technical work.

So I think you can say that by educating more people, there will be some dead ends, but there has got to be an emphasis on lifelong education to deal with a changing world. That is what I referred to

earlier. You may study to be an electronic engineer and, 10 years from now, that may not be the good field, but you ought to be prepared to move. And so it is a continuing process.

But, without education, you just have no chance of generating new jobs, you have no chance of competing with the other countries, and that simply has to be the foundation of a good future for all of us.

Senator LAUTENBERG. Yes, Governor.

EDUCATION REFORM NEEDED TO MEET NEW JOB NEEDS

Governor KEAN. Senator, first of all, thank you again for your good work for the State. I appreciate it.

New Jersey is an example, I think. We are lucky enough, as you know, to have a 3.7-percent unemployment rate right now. But we expect 600,000 jobs to come into the State in the next 10 years.

Now, either we are going to train people to take those jobs or the jobs will go elsewhere. It doesn't mean they will go to other States. They could go to other countries in many cases. And it is not just a case of training people for high technology jobs.

A couple of years ago, I talked to a black entrepreneur who gave me one of the most dramatic stories. He said I own a chain of grocery stores. I know what it is like to come from an inner city high school. I try to hire clerks to work in my grocery stores, kids who are recent graduates of high schools in some of the cities of our State. He said I ask them one simple question. If oranges are three for a dollar, what happens if somebody wants one orange? He said, they can't answer. And that means, after 12 years of school in some cases, I can't offer them a job in my grocery store as a clerk.

Now, to me, that means that if we don't really turn in some cases our schools upside down in order to make sure that people are learning, then we are not going to be able to create not just the high tech jobs that will be coming into our State and into this country, but we are not even going to be able to make useful lives for many of our citizens.

CUTS IN EDUCATION BUDGET

Senator LAUTENBERG. I could not agree with you more. Sitting before you is an example of someone who had an opportunity through the G.I. Bill of Rights to get an education that otherwise was not available to me. It helped me start an industry, a company that an industry, very frankly.

But again my concern is that there is a whole ball of wax here that we have to deal with, whether it is from elementary school education through university education to the job market. One of the things, Governor, I am sure you would agree with me on is that when a child goes to school, not only must he or she have the opportunity to learn, he or she must also have the opportunity to be in a healthful environment. If we cut out asbestos removal, as we are proposing in some of this budget, or we reduce drug education, when we salute that as a principal problem in our society, frankly I think that just to focus on drug education—on good education is not enough, and I could not agree with you more.

Unless we educate our people, we are going to continue to slip behind, and it is pathetic to me, having come out of the technology industry, to watch the United States lose not only its creativity, but its ability to follow through on the products that we have designed here in this country, and watch them made elsewhere and watch products made from those as well.

Thanks, Mr. Chairman. I appreciate it.

Chairman CHILES. Thank you.

Senator Danforth.

Senator DOMENICI. I was going to yield to Senator Danforth.

PROVIDE TEACHERS LARGE TAX CREDITS

Senator DANFORTH. Mr. Chairman, thank you very much.

Gentlemen, in thinking about what we might do at the Federal level for secondary and elementary school education, it seems to me the Federal Government does not want to entangle itself in what historically has been the business of the local school districts.

I don't think the Federal Government gets deeply involved in questions of policy. I may be wrong, but I would not think so. I think that local education is something that must involve community support.

I have been giving some thought lately to what we might do if we wanted to. One thing we could do would be to provide a tax credit for teachers' salaries, say a \$1,500 tax credit. In other words, somebody who is a teacher would compute his or her taxes, and then subtract \$1,500. It is not unique. It would not be unique for the Federal Government to say that certain types of professions deserve special treatment. We do it for the clergy. We provide housing allowances which are tax free for clergy. We also do it for the military.

Now, there are some problems obviously if we were to do this. One is that it costs dough. You don't provide tax credits for nothing.

We would really have to say this is a priority question. It is a matter of budgeting for the Federal Government. To come up with a \$1,500 tax credit for all the teachers and administrators in the country, public and private, would cost in the neighborhood of \$5 billion a year. So it would cost some money.

It would also be contrary to the theory of the last tax bill that we unfortunately passed which said that we don't want tax credits; we don't want special provisions in the tax code.

I guess you have not thought about this for long. I have not thought about it for more than a few weeks as a matter of fact, but do you think that this is the kind of thing we should pursue in Washington? Would it be worthwhile? Would it be a shot in the arm to elementary and secondary education if we were to say that the teaching profession is in fact special, and that we want to provide a special economic incentive which is blind to questions of policy, blind to questions of local decisionmaking in the school district, but which simply said that if you are a teacher at a public or private elementary or secondary school, regardless of whether in a rich or poor school district, we want to make it a little more financially rewarding for you.

Does that seem to you to be a great idea or a lousy idea, or have you even thought about it?

Mr. PACKARD. I will start the answer.

TAX CREDIT NOT GOOD IDEA

I don't think it is a very good idea. One of the problems we have with these sorts of things is that they never turn out to do what we expect them to do, and it is very hard to see what impact this would be on the whole system.

Matter of fact, I think there is some very good progress being made already at the elementary and high school level. And I have been involved personally in that. Our foundation is working specifically with a number of schools. I find a whole new attitude toward this problem, and I am very encouraged about what has happened.

I think—my own view of this is that we considered our educational system a system for social reform beginning in the 1960s, and we had better get back and recognize it as a system of education, and I think we are doing that. And I think we are making some progress.

I don't see any large need for the Federal Government to become involved at the elementary and high school level. I think that problem is being worked very well in many areas that I see.

Senator DANFORTH. Mr. Tucker?

MUST STIMULATE STATES TO DO THEIR EDUCATION JOBS

Mr. TUCKER. Well, to tell you the truth, I do not know what I think about that idea, but I will try to respond. The amounts of money required to bring teachers' salaries up to where they need to be to attract our fair share of the best and brightest kids coming out of college is very large, and those monies will actually have to come from the States.

So the question that was going around in my head, as you asked yours, was what, if anything, can the Government do to stimulate the States to do what they need to do, rather than taking the burden off of them? In my opinion trying to take the burden off them will not work.

What you are describing is a free gift, and in fact I think the States, such as Governor Kean's, where enormous gains have been made, and political risks have been taken, need to be rewarded. The others need to be stimulated.

If a way could be found to do that, it seems to me that that is what you would want. But to take the burden off their backs seems to me not quite the right way to go at it.

I do not have a formulation for you, but it is just a way of thinking about it.

Senator DANFORTH. Mr. Reed.

TEACHERS' SALARIES STATES' RESPONSIBILITY

Dr. REED. I agree with Mark in the sense that it is not the Federal Government's responsibility to fund teachers' salaries for the States. That is the States' responsibility and I do think, with the deficit the way it is, this kind of a program would work. It is attractive.

On the other hand, Senator Chiles knows that next year, when August gets here, we will have 56,000 new public school students entering Florida's public schools, that are not there today.

Over the next 10 years we have got to attract 150,000 new public school teachers to Florida because of our growth. On the other hand, though, I think that it is the States' responsibility to fund those teacher salaries and be more competitive rather than putting the burden on the Federal Government.

We are counting on you to maintain, as a policy, the funds to help the students in the public schools that are at risk, where it just frankly costs more money. Our migrant students, our handicapped students. We are counting on you to continue your chapter 1 commitments.

We are counting on you to maintain access and equal opportunity, both in the K to 12 system, in the university system, and to support research. That is a pretty heavy agenda to continue.

Senator DANFORTH. Governor.

INCENTIVE TO TEACH IN PROBLEM GRADES GOOD IDEA

Governor KEAN. I would agree with much of what Charlie just said. I noticed that you mentioned administrators. We have no shortage whatsoever of administrators. And the shortage of teachers in some cases increases as you go down in the grade where you need them the most.

It seems more prestigious to have an honors course in history than it does to teach a second grader how to read, yet we know that the reading teacher is often more important. So maybe if you could refine the idea, so that somehow you get a Federal encouragement to people to go into those areas where they are needed the most it would help.

But in general I think where it is appropriate the Federal Government can set standards, and challenge us to meet them, but let us go our own way in deciding how to meet the standards. That is what we would really all like.

Chairman CHILES. Senator Sanford.

EDUCATIONAL BANKRUPTCY

Senator SANFORD. Well, thank you very much, Mr. Chairman and I thank all four of the witnesses for their testimony. It is all very exciting, and I have followed it all, and I think that you are pointing us in the right direction.

I would like to ask just a couple of questions, and I would first like to say that I agree with what the Governor said about leaving the primary role of education and improvement of education to the States, because there is not any question in my mind that the States are best positioned to do it. But I was fascinated with the Governor's thought that we might just have to move out local boards, because for too long we left it to local initiative, and it has only been in the last 20 or so years that the States have picked it up. And I have always thought it was the major business of the Governor—whatever else he had to do—that this was the major business.

EDUCATION TASK FORCE REPORT LOOKS TO FEDS

And I would say over 40 Governors have this at the top of their agendas, which is where it ought to be. However, Dr. Tucker said a couple of things that give me an opportunity to make this point by asking a question, and I have talked to Governor Hunt about this report as it has gone forward. It is a wonderful piece of work and certainly is a great guide to the future.

But I get too many little signals that you are looking to the Federal Government. I asked Governor Hunt why you did not involve the education commission of the States, and he said he thought maybe it was a little matter of turf. Well, I do not know to what extent it has been involved, but I do know that there you have got 44 Governors, chief State school officers, other educators and people concerned, so I think that this, all of this, can best be carried out by a total challenge to the Governors of the country, and I hope that is the direction it takes.

Mr. TUCKER. I should say one of the most distinguished members of the task force that produced that report is sitting two spaces to my left, and Governor Kean, when he was a member of our task force, was also chairman of the Education Commission of the States, and we had a very close working relationship.

And as those of you who are familiar with the task force report know, the report is addressed to the States, in particular to the Governors, but in general to State government and local government.

NO LARGE PART FOR FEDERAL GOVERNMENT

The Federal Government was not expected by its authors to play a very large role in implementing its recommendations.

But that is not to say it was not expected to play any role at all. In the last few paragraphs of my remarks, I note some specific respects in which I think the Federal Government has a very important—maybe not very expensive but very important—role to play in carrying out the recommendations of the task force.

In particular as Governor Kean said, it is most important to maintain the foundation programs, especially for the disadvantaged.

But in addition, the report really stresses the problem that we have in this country with minority teachers. About 5 percent of the teachers in this country, very shortly, are going to come from minority backgrounds. And not long after that, one-third of the kids in this country are going to come from minority backgrounds. That is an intolerable situation.

The administration's budget proposes, to cut in half the TRIO programs, precisely the kinds of programs that the report points out are going to be crucial in enlarging the pool of minority kids who get through college with strong academic records, and then become available to go into teaching.

There are a number of Federal programs, many of them quite small, like those, which we regard as critical.

BRING PEER REVIEW TO RESEARCH EFFORTS

Senator SANFORD. Well, I certainly would not suggest that we get away from the foundation programs. I think the Federal Government has fairly well now, mostly maybe by chance, defined its proper role, and that is helping people who are in a disadvantaged position by equalizing payments. And I do not have any problem with your report or your testimony.

I just wanted to emphasize a point, that the Governor and I think it is very important.

Let me ask, quickly, Mr. Packard, one question because I followed your study and report very carefully, and certainly, it is the finest thing I think that has been done as we have looked to scientific education.

What bothers me is that it seems that we have gone from one focused research program, more or less, for the Federal Government, 30 years ago or so, to now we have got the Department of Energy, we have got the Department of Defense, and other departments, none of which want to do what they ought to do.

Do you think maybe that we ought to bring back and put more of this through the National Science Foundation and the National Institutes of Health where we understand the peer review system and get away from some of these scattered efforts of scientific research?

Mr. PACKARD. Well, I think it is going to be difficult to get away from some of the scattered offices because they all have some legitimate role, and if you look at some in particular—the Environmental Protection Agency has some very specific problems that need certain kinds of research. Agriculture is another.

I think what we need is better coordination among the various agencies that are involved. In fact one of the recommendations Mr. Tucker made is to have one system of handling overhead. As you may know, the NIH handles overhead in one way, and the National Science Foundation handles it another way.

You can argue about whether one is better than the other—it is not clear—but there is no excuse for having two. That just adds to the administrative burdens of the schools and universities, and essentially increases the cost of getting both research and education.

So I do not think we have changed the role. Maybe some could be modified to some extent, and the one that I have already mentioned is, I think that the Defense Department which is the large user of science and technology, science and engineers, if you include all the defense contractors—they ought to be expected to pay a larger part of building the foundation on which all this is built.

Senator SANFORD. Except they are not paying it, we are paying it, and the question is how to channel it to get it to their technicians and scientists.

Mr. PACKARD. Well, what I would like to say is, I would like to see the National Science Foundation take the lead and set the policies.

They were involved earlier on, they are the ones that have the broad role, and I think that would be the way to handle it. They ought to be kind of the lead group, and I think that their increase this year is in the right direction.

Senator SANFORD. Thank you very much, Mr. Chairman.

Chairman CHILES. Thank you, sir. Senator Domenici.

Senator DOMENICI. Thank you, Mr. Chairman.

Let me just say to the panel how interesting it is for me to hear you, in that I have just had the opportunity to speak to my State legislature about 5 days ago, and, as I listen, reoccurring themes come to my mind.

Governor, it is interesting. My whole theme was built on the efforts of States and that you ought to take risks. You know, we appear at this point, to be so concerned about taking care of the problems of funding programs we have got, programs which are perceived problems.

We do not necessarily leave a little sliver of resources for risk taking. Neither do our States. States are so burdened with basic education that they have very little left over, might I say, Mr. Packard, to marry up the university system with the national labs, and put something that glues it together so that the fantastic talent that is out there in, for example Lawrence Livermore, Sandia, Los Alamos and Oak Ridge, is better utilized by our universities and the private sector.

NO ASSURANCE MONEY WILL REACH PROBLEM

One of the problems this committee has—I was just telling the chairman about it 20 minutes ago—is that, if we add a billion dollars to the education function over current policy—you suggested a billion over the President's request, if I read you right, Mr. Packard but let's assume we put a billion more over the current policy level. There is absolutely no assurance that it will be used in anything innovative, new, or different. That is just the nature of it. Authorizers and appropriators have to decide whether we want to do some things different than we have been. And you are all suggesting that we should.

As a matter of fact I did not hear, other than—

Chairman CHILES. Well, we added more than a billion dollars last year. We added about \$1.5 billion, \$1.4 or \$1.5 billion, and it did not get into education.

Senator DOMENICI. You are absolutely right.

Chairman CHILES. And we had a floor fight.

Senator DOMENICI. You are exactly right. Senators, the chairman is right. About 80 percent of the increase went to the National Institutes of Health. So in a sense it went to research, but it did not go to education—no new scholarships, no innovative programs to defer a part of the expense for those who would get a Ph.D.

The same thing happened to the National Science Foundation.

Senator CHILES. And if you will remember, we had a floor fight to try to add \$20 or \$30 million to science after we had put in \$1.6 billion.

Senator DOMENICI. That is absolutely correct.

We put in \$1.6 billion for education, and then, when it came to appropriation time, even the national program for enhanced math and science at the public-school level did not get funded. It was frozen instead of increased and we had to literally vote on the floor for even that increase.

Now there are those who say even that program needs to be overhauled. But let me stop the recollection, and the difficulties that we have on this committee.

CENTERS OF SCIENCE AND TECHNOLOGY

Let me say to Mr. Packard, first, I think we have a tremendous opportunity to tie our universities, the private sector, and the national laboratories resource more closely together. This tie could serve to produce excellence in education and more opportunities and enthusiasm for advanced degrees and multidisciplinary science.

It is a real challenge of our time. The President asks now for an increase from 5 to 15 centers of science and technology excellence for the National Science Foundation. Are you aware of that?

Mr. PACKARD. Yes.

Senator DOMENICI. And, might I ask, was the tying in of the national labs discussed as you and Mr. Block talked about these centers of science and technology?

Mr. PACKARD. Well, as a matter of fact, you are talking about one of my favorite subjects. I spent a couple years on another White House science panel studying the Federal laboratories.

SHARING OF RESEARCH INFO CRITICAL

The conclusion we came to there is there is a tremendous amount of research that is available and not being made available to industry, and that there is an important need for better communication between our Federal laboratories and our universities, and some of that is beginning to happen.

The Federal laboratories now have some regulations which make it easier for them to provide some of their research for industry, and it really should be a three-way circle between the university laboratories, industry, and the Federal laboratories.

I think some of that is coming about already. I do not know that any legislation is needed.

Now these research centers are again a good idea because this brings university people and industry together usually in a multidisciplinary approach that is directed toward trying to improve the use of new knowledge for economic accomplishment.

And the problem is threefold. First, to generate some new knowledge; second, to get that new knowledge in the hands of people that are going to be able to use it to create new industry. And the name of this game is staying ahead.

If we do not keep running, there is just no hope whatsoever, because this whole business is going to continue to move, and it has to be at a very fast pace.

If we stop and try and do something to catch up with something we missed a few years ago, it is not going to work. You have to keep looking ahead. So I think the National Science Foundation and the multiple disciplinary programs are a good program.

I agree with you that the Federal laboratories should be coupled into this, I think they are being coupled into this, and as a matter of fact I have some of my people visiting one of the Federal laboratories this week to see what we can find out in the way of better communication.

Senator DOMENICI. Mr. Chairman, I know my time has run. Let me just make two observations.

First of all, Mr. Packard, there is no easy answer to the technology or science transfer between the labs and the private sector because they are essentially an anomaly in the American system. They were built for different reasons and their principal purpose is different.

But there is some headway being made. It is very tedious and very difficult. Communication is probably the ultimate solution with perhaps some new models for communication between universities, private sectors, and the labs.

Let me just close, for the record here, for our own committee members, by saying that even if we vote to provide more money for the National Science Foundation, might I say to you—which we have done—there is absolutely no assurance that it will find its way into the National Science Foundation programs because of the enormity of the function. In fact, we have voted substantial increases, Mr. Chairman, that have found their way into other programs within that function, and not in the National Science Foundation.

Now, if we get committed enough on it, we can do something about it. But I guarantee you, a big, big number gets lost in post office subsidies, or some other major function of the government that skims it off.

We all want NSF to go up. I bet if we voted, we would go close to the President's recommendation. Our next challenge is, how do we get it spent there?

Senator CHILES. It might go close to Mr. Bloch's record.

Senator DOMENICI. It might go close to Mr. Bloch's.

Senator LAUTENBERG. Without cutting it out of other places. Yes, sir.

Senator DOMENICI. Thank you.

Senator CHILES. Senator Conrad.

Senator CONRAD. Thank you, Mr. Chairman.

Mr. Packard, as someone who has benefited from a Stanford education, I want to publicly thank you for your generosity to that institution. I think that is a real contribution, and I again want to thank you and commend you for what you have done there.

It is an institution that deserves support, and I am glad to see that over the years, you have repeatedly given generously to that school.

EDUCATION MADE TO ACCOMMODATE OTHER ACTIVITIES

Governor Kean, I agreed with your assessment that our schools are not doing well enough. I have been watching the scores of our students as matched against the rest of the developing world, especially in math and science, and have become more and more concerned as I see the divergence in between what happens in Japanese schools versus our own.

It is very interesting, to me, to see the difference that they have in emphasis. In Japan, students are going to school 5½ days a week. They only have 6 weeks for summer vacation.

A recent study found that a third more of the time of each classroom hour in Japanese classrooms is actually devoted to learning activity than in the United States.

Homework is much more heavily emphasized in Japan. I must say I have been amazed. I just got married on Saturday and inherited a 15-year-old, and the difference between the amount of homework demanded of that 15-year-old in the school system that he came from, and what was demanded of me, is alarming.

And when I go to the school and I ask, why is this changing? How can it be that when I went to school there was 2 or 3 hours of homework every night, and now there is virtually no homework?

What has happened in 20 years, that would lead to this difference? And it is fascinating, the response I get? Well, we have to let out earlier than we used to. And I asked, why is that. Well, so many of the students have a second job to do, a part-time job.

And why is a part-time job necessary? Well, they all have car payments to make. Maybe that is the answer. Maybe we have got a problem with car payments in this country.

I really wonder what is at the heart of the difference in the level of motivation.

OPPORTUNITY MOTIVATING FACTOR

I was very interested with what Mr. Lang did in New York where, in a graduation speech, he challenged the students to go on. He told them that if they did go on, that if they did well enough to pursue an education, that he would help them obtain the resources to do it.

And if you go back and check the records of those students, that challenge has had a profound effect on their performance.

All of a sudden, students that you might have expected to drop out were staying to complete high school. I think actually only one child has dropped out.

And students from whom you would have expected little, remarkably improved their performance in school. That tells me something about motivation, and the sense that an opportunity exists. I mean, somewhere, we must have gone wrong in terms of getting the message across that there are opportunities out there for our young people.

And that takes us to our role in the budget. Because as I study the budget that has been presented to us, I note that the college work study basically is done away with. That is going to affect hundreds of thousands of students.

The Perkins loan program—a campus-based revolving loan program—is scheduled for deep cuts. That will affect 200,000 students.

Cutbacks in the student incentive grant program—that encourages needs-based grants through the States—is going to affect 250,000 students.

Guaranteed student loans are sharply reduced. Pell grants would be cut by 30 percent, affecting some million students.

The Supplementary Education Opportunity Grants are eliminated. And I would ask this panel: what kind of signal are we sending to our students when we have a budget that takes away that prom-

ise of opportunity, which apparently, based on the Lang experience, is so important?

I would be interested in hearing a response to that from any one, or all of the panel members.

FEDERAL HELP NEEDED

Governor KEAN. Well, Senator, every bit of research that I have seen links, as you have done so eloquently, the student performance to knowledge of the opportunity that lies out there. There is a direct correlation, and the Lang experience just builds on that.

We have tried to do that in New Jersey. We have got a new program this year called 10,000 jobs for 10,000 students. We are getting industry to buy in with jobs, so that the people in high school see those jobs at the end of their classroom experience.

In spite of all the good Federal programs that exist, and State programs, we are not making that link strongly enough.

There is still not enough incentive. A high school student doesn't see that it may be more important to do that homework rather than watch 4 hours of television a night.

That incentive is not there, and I think any programs that can be devised to create those incentives would help. And the same goes for research that can be done at the Federal level. We can do a lot in the States, but it does not make any sense for us to do 50 jobs of research—you can do that better than we can—to find out how we can link motivation to learning better than we are doing now.

STANDARDS REINSTITUTED IN SCHOOLS

Dr. REED. If I might just briefly divide your question up into public schools and university access.

In the public school area, you are correct. In the 1960's and early 1970's, I think, that in this country education retreated from standards. The Governors have taken the leadership, Senator Sanford, Governor Kean, and others, to reinstitute standards in our public schools.

For instance, in Florida, we now have the highest high school graduation standards. Twenty-four credits are required to graduate from high school which includes 3 years of math, 3 years of science, two of which have got to be laboratory sciences.

But in addition to those standards, we have instituted some testing for what I call the quality control points—the 3rd, 5th, 8th, 11th—and then a rising junior test from your sophomore year to your junior year in college. The standards. And we have made those standards public and we have reported, publicly, how well we have done, and where we have not done well we have come back and emphasized that.

We extended the school day in Florida from six to seven periods. Those are some of the kinds of things that other States are also doing. So I think there is a focus there.

CUTS IN STUDENT AID

On your question about access to higher education, Kean is right. The light at the end of the tunnel are students knowing that there is student financial aid there, especially the minority students.

If they do not see any hope, they drop out, and what Mr. Lang did was to provide that light of hope. If the administration's cuts in student financial aid go through, nationally, I think there is some 2 million students who will not get aid. It does not mean a lot to me.

Senator Chiles, in Florida, I looked at what would happen at Florida A&M University where the majority are black students. We have 5,000 students. Twenty-four hundred students at A&M would not receive aid. That would be devastating.

At our largest institution, the University of Florida, where we have over 30,000 students, over 3,000 minority students would lose aid.

We would really cut back on access in our State if that happened.

Senator CHILES. Senator Sasser.

Mr. PACKARD. I would like to just make——

Senator CHILES. Oh, excuse me.

DROPOUT RATE CAN BE HELPED WITHOUT MONEY

Mr. PACKARD. I would like to make a comment on this because we have had some experience with a specific high school in San Jose where the majority were Spanish-American and black students. And in providing some help to develop some real leadership, providing better cooperation between people in industry to help in various teaching areas, the whole attitude of that school has changed around without very much money being involved.

And rather than describe this to you, I will send you a report on this because I think you will find it very interesting, where the dropout rate was something like 45 percent in a matter of just about 2 or 3 years.

By changing the leadership, they got the whole attitude changed, and the kids are entirely different than they were. So I think there is a missing link somehow, and money is not the only problem.

Senator CHILES. Senator Sasser.

Senator SASSER. Thank you, Mr. Chairman.

I want to commend you this morning, Mr. Chairman, for assembling this very distinguished panel to discuss a question that I think is of crucial importance to us here in this committee, and also in this country.

Let me just say that I have recently returned from holding hearings in my State dealing with the proposed cuts in the administration's budget dealing with education.

And I have found that in my State of Tennessee, 75 percent of the students at Tennessee State University, which is largely dominated by minority students, are on student aid programs. At the University of Tennessee units in Martin and Memphis, 60 percent of the students depend on student-aid programs, and I was told by university administrators in my State, that if the administration's student-aid programs went into effect, approximately 20 percent of

all students would be affected and these cuts would impact most heavily upon minority students.

PEER REVIEW SUSPECTED

Mr. Packard, you indicated a moment ago that there was too much logrolling here in the Congress with regard to educational grants, and that we ought to adhere more closely to the peer review process.

Now I am a Senator who defended the peer review process last year, and took a number of slings and arrows along the way in doing so. But the accusations were raised that peer review is simply an "old boy, old school" network, and if you continue to lean too heavily on peer review, you are going to see all the money continue to go to the same Eastern universities or Stanford, or whatnot, and that none of the land-grant universities in the Southeast or Midwest are going to participate in this Federal largess.

What is your answer to that?

Mr. PACKARD. Well, we are talking about peer review in two contexts here. Our panel study was talking about peer review of programs before they are authorized, and one of the difficulties here is that quite often the peers are rather limited in their view, and it makes it difficult for a research person who has been working in one area, and had peer reviews, and he gets an idea in another area and he cannot get approval for getting into that other area.

And Dr. Alvarez, one of our Nobel prize winners, had a specific example of that happening.

We recommend that much more attention be given to the performance of the individual, whether he has in fact produced some useful work, and that peer review be limited to the young people who go into the program, who do not have a record of performance, but after a person has established a record of performance, the peer review should be dropped back so he has an opportunity to use his scientific knowledge, his imagination, and his ingenuity in a broader way.

Now that was the context we talked about in our report. I was referring in my comments today here, that it is important for the Congress to look at the breadth of this educational program, and not through the lobbying efforts of a particular university or a particular constituency, to award money in specific places, and that happened last year on some occasions, and I would encourage you not to do that to the extent it can be controlled.

Senator SASSER. Well, it is not easy to avoid doing that on occasion, I want to tell you, Mr. Packard.

Senator CHILES. I think Dr. Reed wants to explain something.

Senator SASSER. Yes?

PEER REVIEW NOT WORKING FOR THE SOUTH

Dr. REED. Senator Sasser, a comment on that. We also support the peer review process, and I know Senator Chiles helps support that, but I would like to make this comment.

The peer review process needs to be looked at. We need to make sure that we are competing on a level playing field, and if you draw a line at Baltimore, and look south, you do not see very many

people on the National Science Foundation representing some very outstanding institutions in Virginia and North Carolina, Georgia, and Florida, and other places.

And if you look at the panels, all the research tends to go where the panel members come from. We do not think that is a fair, level playing field, and we support relooking at that, and maybe some of these ideas.

But we know of institutions who have great capacity, and do not have a chance.

Mr. PACKARD. I might say I concur with that. I think we have got to be very careful because some of these organizations tend to be biased towards some of the prestigious universities.

So we ought to get a broad look at this problem.

HOW SHOULD BUDGET BE BALANCED

Senator SASSER. Mr. Chairman, one very brief question.

Governor Kean, you said—and I wrote this down: "No one should be denied a college education because they cannot afford it."

Quite frankly, I agree wholeheartedly with that statement. But you also made the statement that we, at the Federal level, need to do something about balancing the budget, and I agree with that statement.

You said that Governors are accustomed to making the tough choices, and I would just be curious: we have got before us a budget in which the administration is asking that 20 percent of the budget cuts that they propose come out of the education function of the Federal budget which amounts to 2 percent of our total expenditures, and I gather that you would not agree with these proposals based on what you have said here today.

How would you advise this Budget Committee to go about balancing the budget? We get the impression that we have cut about as far as we can in things like health care, or waste-water programs, or environmental cleanup, which I know is important to New Jersey, from listening to Senator Lautenberg talk about it over the years.

How would you advise this committee to go about balancing this budget? And I ask that in all seriousness because the Governors do have to balance theirs, and they do have to make tough choices.

ESTABLISH PRIORITIES AND ACT

Governor KEAN. Well, first of all, let me tell you what we had to do in our State. When I first became Governor, we had almost \$700 million budget deficit. That is comparable to about half your problem, given the size of our budget and we had to make some very tough decisions. We laid off a lot of people.

We cut some programs that created a lot of screams. We also raised some revenues which created some more screams. But one way or another, because we constitutionally had to, we made the choices we had to make, and we balanced our budget.

In doing so, we tried to preserve those programs which I would call investments—in other words, money which we invested now to produce greater dollars in the future.

I think education is very much one of those items. If you put a dollar in now, you get back two or three or four in the future. There are a number of those programs in your budget.

I have not studied the Federal budget at length, and for me to say cut this, add that would not be a very informed statement at the moment.

But I would ask you to use the guidelines we used. Where you find investments, where you find a dollar you can invest to bring back two or three in the future, that is what you ought to do. And in other areas, including I would say defense, and a number of other areas, cuts are obviously going to be necessary. I am not an economist but I do listen to people who practice that science, or so-called science, and they all tell us the same thing:

If we do not get some handle on the budget deficit in the next few years, everything else we are talking about will be put in jeopardy.

Senator SASSER. I see my time has expired.

Chairman CHILES. Senator Dodd.

Senator DODD. Thank you, Mr. Chairman.

Let me thank all four of you, along with my colleagues here, for excellent testimony. I really mean that. You have been tremendously helpful in bringing to this committee really four almost unique and distinct perspectives on a common problem, and I think it is tremendously helpful.

I have got to tell you, Mr. Packard, I was stunned by your statistic that 45 percent of the people in these graduate research programs are from foreign countries. I just have not been able to stop thinking about it the 1½ or 1 hour I have been sitting here this morning reading it. I am stunned by it.

I have got to presume that about 95 percent of that 45 percent are probably being subsidized by those foreign governments to the study. I do not presume that most of them have personal individual family wealth that would allow them to come to this country to study. I will get to that question in a second because none of you really addressed in that student debt, which is to me underlying a basic fundamental problem in terms of our higher education institutions.

But I think your comments about research and the applied research in agriculture and electronics is just really worthwhile, and I hope we will pick up on some of your suggestions here to the extent possible.

CHILDREN POOREST SECTOR OF POPULATION

I am impressed, too, Mr. Tucker, with your testimony in focusing on children. One out of every four today in the United States are living in poverty, one out of every two in our cities. The United States has the unique distinction today of having the poorest sector of its population be children. We are the only industrialized nation in the world with that unique distinction—the only. Of the 13 industrialized nations, we are the only country that has as the poorest sector of its populations its kids.

When you start talking about competitiveness in the future, you have got a serious problem in front of you. The Lang example is a

good one. The better one is the Sarah Lee example, where a corporation in Chicago did not promise an individual, promised the help of financial assistance. But a corporation went into the toughest, or one of the toughest, inner city high schools in that city, and where their management level went in. And they went in to the assistant coaches and tutors, and they made a commitment to that school. They turned around dropout rates remarkably.

The private sector has done an awful lot already, I know, in the University of Connecticut. United Technologies Corporation, deeply involved in the University of Connecticut, its research programs which have reduced substantially that university's demand on State budgets and Federal budgets for research programs. The lab idea, I think, adds to that as well.

GOVERNORS STILL LOOKING FOR FEDERAL HELP

Governor, I am delighted to see you here this morning. Our fathers served together in Congress, and we have had the chance to talk about that together. I have just got to tell you, I was a little late getting here this morning because I was at a housing hearing in the Banking Committee, and the Governors Association was there insisting that we do more in the area of housing. We have got a housing authorization budget.

I can go from this hearing to another one, and I will get a demand by the Governors to do more in transportation and to do more on environmental issues and the like. And we love to have you come here; we are losing a little patience, though, on the deficit issue because an awful lot we do is to support our States. We would be in a lot better shape if our states might do a little bit more in some of these areas.

I do not point that at you, but you are the only Governors I have got sitting here this morning to say that to, and I just find from time to time that it is frustration for us up here when we get so many demands—and good demands, honest.

STUDENT ASSISTANCE

Let me just come back quickly to the student debt issue, if I can, and ask you quickly, because I am worried about time here, to comment on it. It is growing by leaps and bounds. Obviously, the cost, Mr. Packard, of the things you are talking about are expensive. If you are going to have good research programs, you have got to have good facilities. There has got to be state-of-the-art technology if our students are going to enter that work force and are at least suited up to be competitive, if you will.

What do we do about that? Obviously, none of us want to see bright kids not get an education, but we know when high school students are looking at a college education, or families are, and we have dropped substantially our grant programs. And we have got, of course, requests in here to really reduce some of those loan programs as well.

In fact, we have shifted. It used to be about a balance. In fact, more grant than loan. How do we get around that one? We can do all these other things, but if we make it financially impossible for an average income family—forget the poor kid, if you will, for a

minute. We all agree on that—but the average family to be able to go to a college like a Stanford, to be able to take advantage of that money we put in these areas. If we do not do that, how do we get around that? I do not know if you have any suggestions on that, but I would like to hear them.

I will begin with you.

COST ASSISTANCE MUST COME FROM MANY SOURCES

Mr. PACKARD. Well, there is no doubt about it that the cost of university education is going up. We were troubled about that in this report that we made, and I think there are some things that the Federal Government has required of universities that maybe have added to these costs. Several of them we mention in here.

I do not see any likelihood, though, that you are going to make any big change in this matter. You need more expensive equipment; you need more expensive facilities; the costs of power, the costs of everything else has gone up.

Now, the costs went up more rapidly than other factors in the economy, and that is hard to explain. I think it would be desirable to put some pressure on the universities to try and cut back some of these costs. But I think we are going to be faced with the proposition that families are going to have to extend themselves further. We are going to have to rely upon more scholarship support. I think the private sector industry, as well as individuals, are going to help here.

I think this has to be a combination of all interested parties in trying to help in this problem. I do not think this is a Federal responsibility alone, a State responsibility or individual one. I think we have got to look at this as a problem that is important for all of us and try and find some way of cooperating and sharing in the responsibility in an equitable manner.

Senator DODD. Thank you.

Do you want to comment on this, Mr. Tucker?

Mr. TUCKER. I certainly agree with all of that. I just want to comment on a few things that Secretary Bennett has said recently on this particular point.

If I understand his point of view correctly, it is that studies have been done that show what the return on the investment in a college education is—that is, in terms of lifetime earnings of college graduates compared to those who do not have a college degree. He apparently regards that difference as a benefit to that individual, period.

Senator DODD. Let me quote it. The budget, in fact, says, and I quote, "Although society benefits from a better educated work force, students are the principal beneficiaries of their investment in post-secondary education."

Obviously, a benefit, but it seems to relegate society's role to almost a less than secondary status with that quotation. I must tell you my reaction to it.

COST TO STUDENTS NEAR LIMIT

Mr. TUCKER. I think that is fairly incredible. That is, the difference in lifetime earnings can amount to several hundred thousand

dollars, but it is clearly the case that the percentage of people who would make the investment of several hundred thousand dollars in a college education on the basis of the difference in lifetime earnings has to be very small. And we are clearly reaching this threshold in terms of what students and their families can reasonably afford.

Many economists, in looking at the influence of the GI bill investment on America, have speculated—and that is what it has to be—that the very long period of economic growth which we enjoyed after the Second World War, the longest period of sustained economic growth in our entire history, was attributable in some measure to that investment that we made in the servicemen that returned from the Second World War. They benefited clearly, but the society as a whole benefited enormously.

Clearly, Dr. Packard's right. We have to find a way many public and private sources can share in the cost of higher education. I believe that we have reached the limits of what we can expect with respect to the students themselves bearing this cost as a long-term loan.

PAY TUITION IN ADVANCE

Dr. REED. Senator, we too are concerned about the debt that students are accumulating and then are having to pay back as they begin their new jobs. One of the things that we are looking at are what kind of incentives can we provide for students and their parents to save.

If you divide the world up into two parts, there are people who save and people who do not. It would be valuable to help those who do not save by providing some incentive programs. One such incentive which we are examining in Florida is prepaid tuition, permitting people to save very early through payroll deduction.

One important question which must be answered is, will the interest on those savings be taxed or not? This is the question. If you look at the Federal Tax Code, I believe it is silent as relates to education. But we are providing as a nation incentives to help the housing industry, the medical industry and others by providing some shelters.

Senator DODD. Not much any more.

Dr. REED. Not as much any more, but I think that it is there. So that is something that you might consider to encourage more people to save. I think it would not just be good for tuition and universities, but if we can encourage more people to save in this country it would be better for our economy.

Senator DODD. We do not encourage much of that any more, either.

FOREIGN STUDENTS MAKE BIG SACRIFICES

Governor KEAN. Let me say one thing, Senator, about our incentives that we mentioned earlier.

I talked to a faculty member at one of our State's larger universities the other day who had looked at how some of these foreign students were living. He found a number of groups of foreign students who were living on dog food—not complaining about it, just

living on dog food because the various subsidies they had in order to gain an American education did not cover the American cost of food.

That has now been taken care of in that university, but I suspect that a lot of foreign students with tremendous motivation are making tremendous sacrifices in order to get that education.

In New Jersey we are doing very well, as you are in your State of Connecticut. We have not only been able to make up every cut that there has been in Federal aid in the scholarship area, but we have done better than that. We have increased scholarships incredibly in the State of New Jersey. But we can only do that as long as we have the kind of economy we have.

What I worry about is that it will not last for my own State and for your State as the economic cycle changes. And a good economy does not exist even today for a number of States. I worry about how my colleagues who are governors can possibly do what we have been able to do and not have a tremendous mountain of debt built up.

Finally, let me say one thing on your comment on the debt. I will be down here again, so will other governors, and we will tell you what not to cut. We will tell you what is absolutely essential. We will be after you to do everything possible to restore this or that program. And then we will finish our testimony, and you will say, yes, but remember that you have got to make cuts because the deficit is getting too high.

I do not think that is totally inconsistent because it is what governors are used to. I mean, we are used to people coming at us also with all sorts of requests, recognizing that to a lot of them we have got to say no. We recognize that you are going to say no to us on a number of occasions.

Senator SANFORD. What you did today is not in that category?

Governor KEAN. No, of course not. [Laughter.]

Senator DODD. Let me just add this. The light has gone, but the last one I wanted to make on the debt issue is I think we are talking about—to pick up on your point, Mr. Tucker, when you are talking about jobs in the private sector, I think the Bennett response is a pretty good one. I think you are right; it is getting to the point where it may not be so good.

LOVE OF TEACHING WON'T OUTWEIGH COST

If you are talking about what is New Jersey or Connecticut doing in recruiting teachers, our starting salary is \$20,000; where I am sure if you go to work for Hewlett-Packard as a bright young engineer coming out of Stanford, you are going to pay him more than \$20,000 a year. And you have got that student who is looking at those two career paths. If they are accumulating debt in the process, no matter how much they want to be a teacher—and I know you are going to love to have them at Hewlett-Packard. I am not saying you should not get them, but I would like to think we might get a few of those to come into our high schools and our grade schools and become our math and science teachers because they would like it as a career. Not that we are ever going to achieve parity with them.

I come from a family of teachers, one in the public school system in my home state, one a university professor, and two aunts who taught for 40 years apiece, and two of them were Fulbright scholars. They loved teaching. They loved teaching. You could not get my sister out of the public school system in Hartford. She really loves it as a career, and she is not looking for parity.

But had she had to accumulate \$40 or \$50 or \$100 thousand worth of debt out of the college education, I am not sure my sister would be teaching in the public school system in Hartford today, no matter how much she loves it.

Governor KEAN. Senator, may I say one other thing? It is a program we have in the State of New Jersey which is working at the moment. We have a program that we give scholarships of up to or over \$5,000 apiece a year for students in the top quarter of their class in high school who commit to teaching for 3 or 4 years after they graduated.

Senator DODD. You have been traveling all over New England trying to steal our people to come to New Jersey to teach. I commend you.

Governor KEAN. Well, we have gotten a few of them. [Laughter.]
Chairman CHILES. Thank you.

WHY SO MANY FOREIGN STUDENTS

Dr. Reed, we have talked about this problem that is shocking to all of us as we are exposed to it, that 45 to 50 percent of our graduate students in our graduate schools are foreigners. Can you tell me why is that happening? From the standpoint of a university chancellor, why is that happening? Is it dollars?

Dr. REED. It is not dollars, Senator Chiles. Most of the foreign students are in the scientific and technical areas of the graduate programs. Actually, as you get closer to the Ph.D., it is above 50 percent in Florida. It is because of the basic education that those students receive back in the early grades, especially in junior high school.

We have found if you are going to become an engineer you have got to get into the math and science sequence at the junior high school.

FOREIGNERS NOT DENYING U.S. STUDENTS

Chairman CHILES. But why would the University of Florida or Florida State University be seeking these students?

Dr. REED. Because they are bright students, they are well prepared as they enter the university system. They have had their basic math and sciences.

Chairman CHILES. But do not the universities need that tuition?

Dr. REED. They sure do.

Chairman CHILES. So really, they are bright and all that, but we are not doing it because we are just for bright foreign students. You are seeking that tuition, are you not?

Dr. REED. That is correct.

Chairman CHILES. And they are qualified?

Dr. REED. And they are qualified and there is space for them.

Chairman CHILES. And there is space for them.

So, in effect, you are not saying that we are depriving a U.S. student because we do not have them, they are not there to fill it?

Dr. REED. That is correct. They do not have the basic preparation. They have not gotten into the math and science sequence in junior high school.

Chairman CHILES. And this is a way of delivering a product where there is a price which allows us to pay the professors, to pay the overhead.

Dr. REED. Yes, sir.

FOREIGN STUDENTS ARE U.S. SUBSIDIZED

Chairman CHILES. Do we give that at the same price we give it to our student, non-resident, let us say?

Dr. REED. Yes.

Chairman CHILES. There is no premium charged?

Dr. REED. There is no premium cost between a non-resident student in Florida and a foreign student taking a place.

Chairman CHILES. You tell me. Where does this foreign student get his funds? Are they wealthy students, or are they being sponsored by their governments?

Dr. REED. Both. Some are sponsored by their governments. Some receive from their families resources. Some of the governments subsidize students. We do a lot of business with the Consular offices in Atlanta and in Miami, and they send along student financial aid.

Chairman CHILES. Well, let me ask you, if you will think with me on this, and the rest of you, too. If we are providing that at the regular fee we give to a non-resident student, they then are receiving, are they not, a tremendous benefit or subsidy from this country and our taxpayers because we know none of our students, their tuition does not pay for that education, resident or non-resident? So they are getting a stipend from this country?

Dr. REED. They are subsidized. As I had indicated in my testimony, for in-State students the cost sharing is 75/25. It is about, I would say, somewhere 60/40 for a nonresident student that the State is subsidizing and the Federal Government is subsidizing because you—

Chairman CHILES. Now, who has the 60? Is that the subsidy?

Dr. REED. That is the nonresident student paying 60 percent of the cost.

Chairman CHILES. He is paying 60 percent. So 40 percent of that education we are giving to these foreign students is a stipend or subsidy from the State and Federal government?

Dr. REED. That is correct. If you go into the medical area, it is even much higher than that where the State would be subsidizing the foreign medical students.

U.S. STUDENTS PAY HIGHER TUITION IN FOREIGN SCHOOLS

Chairman CHILES. Let me ask you this: A long time ago I remember hearing about the University of Mexico. Some kids of ours that could not get into medical school at the University of Florida or other places, went to Mexico. They wanted to be doctors. I was told there that they paid twice as much as Mexican students did, and

that it was the government of Mexico's proposition that if we are going to allow some of these people into our med schools, we are going to allow each one of them to sort of carry a Mexican student with them. In other words, we are going to know that we are educating another doctor from Mexico because of this.

Dr. REED. That is true. Also, my experience has been some of the off-shore island medical schools also charge a substantial amount more in tuition.

Senator DOMENICI. Mr. Chairman?

Chairman CHILES. Yes.

Senator DOMENICI. Might I just suggest, obviously you are involved in a very serious issue in this discussion of who subsidizes. But it is my understanding, Mr. Chairman, and members of the panel, that in terms of science, 60 percent of foreign nationals that get Ph.D.'s here, live in the United States when they are finished. They become part of America some place. They go to work for Mr. Packard or teach at your university.

Is that a true statement?

Dr. REED. Senator, I do not know what percentage. I do know a large percentage of those foreign students do.

On the other hand, a lot of them go back to their countries.

Senator DOMENICI. Oh, yes.

INCENTIVE THERE NOT TO GET DOCTORATES

Mr. PACKARD. Let me just make one other comment about this. This, as you know, was part of our foreign policy to try and help some of the countries develop their capability after the war.

Stanford, for example, had a very large number of students from Spain. This has been a broader policy than you might think.

Now, I think that the problem is that we have had difficulty in keeping our own students in the system, and I do not agree that it is largely because they are unprepared. I think it is partly because the industry has offered these people higher paying jobs, and it is not worth their time or the cost of getting a doctorate degree.

Now, that is something that industry is now looking at and may be able to correct. It is true that some of these foreign students stay and become professors at universities. Some of them go to work for an industrial company, but some of them do go back and help develop industry in their own country.

So it is, again, a broad problem, and it has been a longstanding policy to encourage our friends and allies around the world to send people so that we can help bring them up along—

Chairman CHILES. Well, I am delighted with that, but an awful lot of them that are here now are Japanese, and we have encouraged them enough for right now.

Mr. PACKARD. We have just gone a little too far, that is all.

FOREIGNERS NOT COUNTED IN HIRING FREEZE

Chairman CHILES. Yes; I think you are right, and the question is: Should we have our taxpayers paying this subsidy of 40 percent, or should we at least see to it that they are paying for that education, much of it being government sponsored? I think we have to look at it.

I would like your comment on this. An academic told me the other day that our NIH intramural programs, are top heavy with foreign scientists, particularly Japanese, because the foreigners do not count toward the hiring ceilings.

Now, this is something that OMB has done, in effect, and the foreigners do not count to the hiring ceiling and U.S. scientists do. How is that for a shoot-yourself-in-the-foot policy?

Governor KEAN. I do not think that makes much sense at all, obviously. As Dr. Reed said, the problem is that there is room for all these people because we are not encouraging or educating our own students to take those places. I would feel much more strongly about this if there was a group of American kids who were being denied an opportunity because a foreign student is there.

Chairman CHILES. I would too.

Governor KEAN. That is not happening, and Japan, of course, is the prime example. But there are an awful lot of countries where I happen to feel—China being an example—where 4 years of experience with American democracy for people who are going to be the leaders of a country like that is an investment well worth making by the State and by the Federal Government.

SHOULD U.S. BE SUBSIDIZING FOREIGNERS

Chairman CHILES. But do you agree that even though there is room and capacity, should we be subsidizing 40 percent of that education with our tax dollars? We are talking about limited dollars and how we beat a deficit. How we do all of these things? Can we afford to do that?

Governor KEAN. We probably cannot afford to do it.

The other side of the coin is, though, if we simply make those people from other countries pay much more, then the countries who probably need help the most are the ones who will not be able to send their students. The Japanese students will continue to come in the same numbers, but we will lose students in developing African countries. We would lose students, I would suspect—

Chairman CHILES. Maybe we need to be a little selective in how we do that.

Governor KEAN. That would be all right.

Chairman CHILES. Do you have further questions?

Senator LAUTENBERG. I have just a couple, if I might, Mr. Chairman.

On this particular issue, we were reminded by Mr. Bloch from the National Science Foundation that 60 percent of the foreign students who we educate here remain here.

We also know that that does create competition in the job marketplace, that these people who are being trained at American taxpayers' expense at American institutions are also then competing in the job market. Maybe because some of our folks might not be aggressive enough, but nevertheless it does offer another layer of competition.

Governor, when you talked about the miserable conditions under which students from foreign countries are willing to live, some of that is in the pursuit of freedom. It has very little to do with education. They just want to get out of the countries that they live in

because conditions are intolerable, both economic, political, et cetera. So they come here looking for these opportunities.

INCONSISTENCY IN APPROACH

I wanted to just ask a couple of questions of Dr. Reed. I thought that you presented a fairly unique proposal, very business-like. I thought it was absent some of the emotion that I thought would normally go into an educator's presentation, but you talk about 25 percent of the cost for tuition being borne by students, if I read correctly. And you said, "We propose annual adjustments to tuition rates to maintain this policy. We can tell you tuition rates are going to continue to go up."

So what you are saying is, students, families, be prepared; you are just going to have to pay more. Is that inconsistent, in your view, in any way with coming here and saying, "We need help to continue to offer education to our people," those who are qualified and those who deserve the opportunity?

Is there any inconsistency there, Doctor?

Dr. REED. I do not think there is any inconsistency. I think it is a pretty good deal where the people of Florida provide 75 percent of the cost of university education to the young people. They, then, have to come up with 25 percent.

Senator LAUTENBERG. Well, is it the state of Florida, or is it a combination of the State of Florida, the Federal Government?

Dr. REED. A combination of the State of Florida and Federal Government, and for the Federal Government the policy is to provide access to young people who cannot afford that cost. So that is the reason that I support the continuation of the national policy of providing access through student financial aid, which includes the Pell grants, the work-study programs, the SEOG, and the loan programs.

Senator LAUTENBERG. Did I detect from implication that you had a larger capacity for educating students than you had students to fill the places, and therefore, the foreign students were welcome?

Dr. REED. No, not necessarily.

Senator LAUTENBERG. Is that the case?

Dr. REED. That is not the case in Florida. We have the capacity, and we are not growing at the university level by design. We are holding our enrollment in the university system in Florida stable between now and about 1994 or 1995.

Senator LAUTENBERG. So that as more foreign students come in, that means there are less local resident, less domestics?

Dr. REED. Our college age students 18 to 21 are not growing. That cohort is not growing right now at the same rate that our younger students are.

Senator LAUTENBERG. So you are holding some of those seats in reserve for the future and meanwhile occupying them with foreign students?

Dr. REED. Essentially, that is what is happening.

Senator LAUTENBERG. So is there a base—

Dr. REED. One of the things that I would like to say about foreign students in our universities: While those students are completing their master's or Ph.D. degrees, they are valuable to us. They are

teachers, graduate assistants and researchers who are doing valuable research and contributing to the mission of the university also. They are very helpful.

ROLE OF COMPUTERS IN EDUCATION

Senator LAUTENBERG. I would like to ask the Governor and Mark Tucker about the role of computers in education. I come out of the computer field—the Governor knows that—and I have introduced legislation to encourage schools to plan for the use of computers, to plan the curriculum, to train the trainers, to do this in a total fashion so that we are not just throwing equipment or money at the problem. My bill would provide funds for the purchase of equipment for the teacher training and so forth.

Now, these funds would be used to start seed projects, essentially, to make the investments that you talked about for school systems and communities. How do you see computers fitting into the educational scheme, Mr. Tucker?

Mr. TUCKER. I am familiar with your bill and with the companion bill that then-Congressman Wirth submitted, I think 3 years ago, and both of you have been submitting since. I think they make a lot of sense.

In my view, it is a great mistake to look at technology and education as a way to substitute capital for labor, which is the way a lot of people look at it. I do not believe that the computers that we have these days are good teachers and that, therefore, they can be made to substitute for what teachers do.

However, computers can, I think, in the hands of very capable teachers, make both the teacher and especially the student very much more productive. The best example of this is word processing. When you put word processing equipment out in the schools and make it really available to the kids, and I do not mean 10 minutes a week, but maybe 2 hours or 3, it is clear that they can write a lot more and it is much easier for them to change what they have written, to edit it.

It makes it possible for them, therefore, to learn a lot about writing quickly, provided that they have teachers who themselves are good critics of the writing.

It is true of almost every other application of the computer that makes sense to me, so what we really need to do, I think desperately, is to have the best teachers we can have in our schools and to back them up and the students with as much computing as possible. The kinds of computer uses that make the most sense to me are those that require a lot of time on the computer. That means the number of computers that are out there is terribly important.

Governor KEAN. I could not agree more with the purposes of your bill because it seems to me that a student today has got to graduate from school literate in the use of the computer, just as much as he has to graduate literate in the use of the English language.

One of the things that worries me as an investment like that becomes important, and a computer is an investment, is that we can have an increase in the inequalities which already exist in the system. A poor school will not be able to afford the computers for

its students and a rich suburban school will. That will just magnify the differences that already would exist between those two schools and their graduates. So I think anything which can help mitigate that and get computers and make people from all schools computer literate is something we ought to encourage.

Senator LAUTENBERG. I see, Mr. Tucker, the computer as a tool more than as an instrument for just helping the teacher. It is a tool that helps the child learn as well, and I think certainly it can be used in any subject.

Senator DOMENICI. I just wanted to make an observation. Senator Dodd talked about debt on the young people that are getting educated. I have waited patiently to make the case for parents since I had more children in college at one time, a year ago last September, than any Senator in history. I had seven at one time.

Now, thank God that two of them worked full time. Our house appreciated it immensely. The house that we bought 15 years ago when they elected me to come up here, and the debt that that house now carries, has paid for a hundred thousand or so of this college education: two at Georgetown, two at the University of Virginia, and one at the UNM law school. Thank God none of them chose to be doctors. We would never finish.

Having said that, there is a real problem for middle income parents. They do not fit into any program, especially high middle income parents. Yet they often have two or three children in college. This is not outlandish today because students do not finish college in 4 years, as you all know. The first 4 years just gets their appetite up to get a master's in something or go to Wall Street for 1 year and then go back to Harvard Business School. So it just sort of never ends.

MUST RELATE NATIONAL LABS BETTER

Having said that, let me say, in particular, again, to Mr. Packard that I really believe one of the clues to our future is to tie in the national labs. I do not say it just because New Mexico has two; you have one, Tennessee has one. But when you have a \$900 million to \$1 billion a year facility with modern equipment and the best talent around, we have to find a better way to relate those both to the universities and to the business sector.

Mr. Packard, there is no doubt the experts look at that investment, and they say it has been a great deterrent in terms of Soviet nuclear development. But they are all of the opinion that we are not getting our dollar's worth in terms of Federal research and development money versus utilization.

Now, I love the labs. I wish we could just keep funding them because they are magnificent places. Brilliant people who have multidisciplines and equipment and think exciting things. But I really believe they are somewhat of a clue—tying them together better is somewhat of a clue to our future.

I hope you have looked at that as you study the university's future because I think we tend to be competitive sometimes. We think the labs are in competition with the university systems, or vice versa. Frankly, I think we ought to marry them up better. I do

not know how yet, but everybody is working on it, including this Senator.

Mr. PACKARD. Well, I think you are quite right. We are spending \$18 billion or so on those laboratories, and one of the problems is there is so much information there it is very hard for people to know where something is being done that is of interest to them. If there were any way to provide some incentives on this, it would be helpful.

But I do not think that is a budget problem. I think that is a problem of trying to find some other ways of doing this.

LABS MADE MORE ATTRACTIVE TO INDUSTRY

One thing has been done to help the laboratories relate better to industry. They have allowed the laboratories to give exclusive licenses on a particular development which then makes it more attractive for industry. And they have also made it possible for the innovator himself to get a royalty, and that gives him an incentive to try and go out and find somebody to use this thing.

Now, we need some kind of incentives like that to get the universities and the laboratories together. I do not think it is a dollar problem at all, however.

Senator DOMENICI. Thank you.

Senator LAUTENBERG. Thank you. The Budget Committee thanks each of the witnesses for your wonderful testimony. The fact you were here so long shows the level of interest that you have helped create as well as the natural interest that flows here. We thank you very much.

The Budget Committee now stands in recess, subject to the call of the Chair.

[Whereupon, at 12:55 p.m., the committee adjourned, subject to the call of the Chair.]

Building Florida's Future:

University Research
in High Technology
for Economic Development

A Report to the Florida Legislature
from the Florida Board of Regents
and the Florida High Technology and Industry Council

January 30, 1987

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Executive Summary

Florida leads the Southeast and ranks sixth in the nation in employment in high technology industry, with 150,000 jobs in 1,900 businesses. For the last 10 years, Florida has led the nation in the rate of growth of high technology industry. This expansion has been supported by the reemergence of the space program, expansion of the defense industry, industrial migration and expansion of quality science and engineering programs in Florida's universities.

The 1986 Legislature directed the Board of Regents (BOR) and the Florida High Technology and Industry Council (FHTIC) to develop a plan for research in support of economic development. A high technology research program provides the basis for development and commercialization of new products to support industrial expansion, and at the same time provides a supply of skilled employees for Florida high tech companies.

The plan recommended by the BOR and the FHTIC proposes to:

1. Focus research in technology areas identified as high in potential for industrial expansion. These are biomedical devices, biotechnology, computer software and computer science, lightwave technology and related materials science, microelectronics and related materials science, computer integrated manufacturing and robotics, and simulation and training.
2. Leverage state support with matching funding from the federal government and private industry, including a special effort in 1987-1988 to obtain a National Science Foundation Biotechnology Research Institute in Florida.
3. Support relevant research at all levels, from basic research through applied research and product development to commercialization.
4. Encourage joint research programs involving faculty of several universities to exploit synergistic research skills, avoid duplication of expensive laboratory facilities, and promote involvement of geographically dispersed industry.

An appropriation of \$15 million is requested to implement the plan in 1987-1988, with \$8 million proposed for applied research and development projects, \$5 million proposed for support of basic research projects, and \$2 million proposed to support the development of the NSF-designated Biotechnology Research Institute.

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I. High Technology and the Florida Economy

Introduction

Twenty years ago Florida ranked last in the total number of manufacturing jobs in the South – and last, even in the rate of growth. The manufacturing sector was an insignificant component of the economy, compared to agriculture, tourism and construction. As a result, Florida was not significantly involved in national and international finance, industry or trade. Twenty years ago, Florida was a low wage economy – a poor state.

Florida is a poor state no longer.

In the past 20 years, Florida has become a national and international economic force. A primary reason for this surge is Florida's growth in the knowledge-based, technology-driven manufacturing industry.

Today, Florida leads the Southeast – and ranks sixth in the nation – in high technology employment. High technology industry means jobs for 150,000 Floridians in 1,900 high technology businesses. Over the last decade, Florida has led the nation in the average annual rate of growth in high tech firms and employees, emerging as a major force in the national economy. At current growth rates, Florida soon will rank fourth in high technology industry behind California, Texas and Massachusetts.

Four factors contribute to this dramatic growth, including:

- re-emergence of the space program;
- expansion of the defense industry;
- industrial migration to Florida;
- and expansion and development of quality science and technology programs in Florida universities.

Building on these strengths, Florida has an excellent opportunity to surge forward in economic development through university-based research. The high technology sector is at the heart of Florida's economic future, and research is at the heart of high technology.

Case in point: in Florida's emerging manufacturing industry, 27% of the total jobs are in the high technology sector. Because of this growth in high tech manufacturing, Florida ranks third in America in the number of new manufacturing jobs. This trend is expected to continue.

In addition to more and better jobs, Florida will receive other advantages:

- High technology products are high-cost items usually exported to other states or nations, resulting in a positive cash flow to Florida's economy.
- Wage rates in high technology industry are comparatively high. Expenditures for housing, goods and services by high tech employees promote expansion in other sectors of the economy.
- High technology industry has a propensity to "spin-off" new firms and spawn industrial expansion. This has occurred in the laser-optics industry around Martin-Marietta in Orlando and in the computer industry around IBM in Palm Beach County.
- High technology industry also supports research which is vital to improving the competitive advantage of American firms in the production of goods and services.

A robust research program creates not only new knowledge in the specific disciplines, but equally important, provides a supply of skilled scientists and engineers which helps Florida companies to grow within the state, and provides research assets at the Universities which support industry needs and keep research efforts within the state.

Geographical Concentrations of Industry

As indicated in Dr. M. A. Maidique's report, High Technology Industry in Florida: Approaching Critical Mass, and Charlotte Williams' article entitled, "Florida: Setting Trends in Economic Growth and Engineering Employment," no one part of the state has a monopoly on industrial growth. Florida's industry is located primarily in three distinct geographic areas: the southeast Computer Coast centered around Dade, Broward and Palm Beach counties; the Space

Coast around Brevard, Orange, Seminole and Volusia counties; and Technology Bay, a nickname applied to Pinellas and Hillsborough counties.

Although other areas are also beginning to develop, these three areas account for 90% of the state's technology-driven industry workers and have two-thirds of companies identified as high tech firms.

The Computer Coast

The southeastern Computer Coast now accounts for 33% of Florida's firms and 40% of its total employment concentrated in computing equipment, aircraft and pharmaceuticals.

Palm Beach County has the largest concentration of computer and communication-related industry and employment in Florida. High tech businesses there number approximately 330. The largest is IBM, with 8,000 employees. This region also is home to three-quarters of the Florida's pharmaceuticals industry. And it has developed a significant portion of the medical device industry.

The Space Coast

The east-central Space Coast accounts for virtually all of Florida's guided missile and space vehicle industry. Primarily producing missiles, satellites, computers and military communications equipment, this area accounts for 36% of the state's technology-driven industry employment and 20% of its high-tech firms.

While the majority of employment growth has occurred in aerospace and electronics, there have been significant increases in the chemical and drug industry, computing and accounting machines, instruments and laboratories dedicated to research and development.

East-central Florida also has emerged as a leader in simulation training devices and electro-optics. It serves as home base for the U.S. Department of Defense Naval Training Systems Center, Army Project Manager for Training Devices and Defense Training Data. Businesses in the area received an estimated \$1.2 billion in contracts during 1985. The Space Station Development Program, expected to begin by late 1992 at Kennedy Space Center, will provide added thrust to the region's space industry as well.

Technology Bay

Florida's west coast is also becoming a center of high technology. Although it is the smallest of the three regions in terms of employed workers and number of employers, studies indicate that the number of new jobs created in the Technology Bay area will grow. Last year alone, employment in advanced technology businesses increased by 1,300, despite a significant decline in the semiconductor industry.

Seven hundred firms do business in computers, telecommunications and electronics, missile guidance components, industrial robots, defense simulators and data recorders.

North Florida's Developing Economy

While these three areas account for 90% of employment in high technology industry, other areas show significant growth potential. Jacksonville, Ocala, Lake City, Panama City and Fort Walton Beach are emerging as centers of industrial employment in North Florida.

II. High-Technology Research in Florida's Universities

High Technology industry has emerged in states with strong university programs in the sciences and engineering, including California, Texas and Massachusetts. A 1980 study determined that Florida was not producing enough engineers to support expansion of high technology industry. In 1981, the Board of Regents of the State University System of Florida developed a five-year plan to expand and develop quality technology education programs. This plan has been funded by the Florida Legislature from 1982 through 1986. Among its accomplishments: today Florida's state universities graduate almost twice as many engineers as they did five years ago.

New colleges of engineering were opened at State Universities in Tallahassee and Miami, and the University of Florida began offering engineering programs in Jacksonville in cooperation with the University of North Florida. Existing engineering programs in Gainesville, Tampa, Boca Raton and Orlando were strengthened and expanded. State contract programs were established to train Florida students in engineering at the University of Miami and the Florida Institute of Technology, in Melbourne.

During the five-year period, the State invested more than \$166 million to increase production of engineering graduates, upgrade faculty and equipment and construct new facilities for research and instruction. In addition, the Florida Engineering Education Delivery System, or FEEDS, was established to offer graduate and continuing education at 33 industrial locations to 2,500 engineers employed in Florida industry.

The 1986 Legislature directed the Board of Regents (BOR), in conjunction with the Florida High Technology and Industry Council (FHTIC), to report on the present levels of research and development on Florida campuses in seven fields having clear relevance and impact on high-tech economic development in Florida. They include:

1. Biomedical Devices,
2. Biotechnology,
3. Computer Software and Computer Science,
4. Lightwave Technology and related Materials
Science,
5. Microelectronics and related Materials Science,
6. Robotics and Computer Integrated Manufacturing
and
7. Simulation and Training.

These seven areas were chosen by science panels convened by the FHTIC as fields in which Florida has a significant industrial base and organic related skills at the universities in the State.

Membership of the panels consisted of Florida's premier scientists, engineers and academicians, including industry representatives at the company president and vice president levels. Additionally, a group of consultants of national prominence reviewed the effort, including the Director of the extensive and successful New York State applied research program, a state-industry cooperative venture.

How the Seven Research Areas Were Picked

The objectives were to identify areas for emphasis and resource concentration, and to define an applied research program that would involve joint state-industry support to promote industrial growth and broaden areas of excellence within the universities.

The science panels recommended concentrating applied research in these seven areas in order to best stimulate economic growth. The present study conducted by the BOR/FHTIC Task Force ratified the choices, based upon an updated assessment of the selection rationales used by the Science Panels, which are now known as the Science and Technology Standing Subcommittees (STSSC) of the FHTIC.

The rationale for the selection of these seven areas relates to their importance to the growth potential of the existing Florida high technology industries. Materials Science is a pervasive element in many of the seven areas listed above. Accordingly, the recommendation includes the subject as an underlying element. The Council also gave substantial consideration to including Communications as an eighth area, especially in recognition of the fact that manufacturing of communications equipment accounts for 24% of high technology employment in Florida. The Council decided not to include this area for two reasons: first, it is a mature, developed sector of the industry rather than a developing and emerging sector, and second, given the limited resources available, it was felt that it would not be possible to mount a communications research effort at a level significant enough to stimulate economic development. However, the Council did suggest that emphasis be given to projects in other areas, such as lightwave technology and microelectronics, that have direct application in the communications industry.

Focus of This Report

This report identifies existing high technology programs of distinction in Florida's universities, documenting the approximate number of faculty involved, the amount of federal and other non-state support where identified and some indication of comparative strengths and recognition. This assessment will serve as the basis for a five-year plan for high technology research. These data indicate that the three most significant high technology institutions, in terms of historical accomplishments and current effort, are the University of Florida, Florida State University, and the University of Miami.

This plan recognizes, however, recent exceptional growth of interest, activities, and achievements in the high-tech areas throughout most of the Florida universities - especially in cooperative efforts in laser-optics involving the University of Central Florida, the University of South Florida and the University of Florida; and in biomedical technology involving the University of Miami and Florida International University.

A detailed discussion of each of the seven areas of technological emphasis follows.

1 Biomedical Devices

Biomedical devices are the products of advanced technology applied to medical care. They include pharmaceutical preparation, X-ray apparatus, surgical, orthopedic and ophthalmic goods and supplies, and medical electronic devices - such as pacemakers, defibrillators, neural stimulators, electrosurgical systems, electrocardiograms, magnetoresonance imaging and CAT scan technology.

This field includes devices for use inside the body and externally, as well as the use of high technology to assist in medical procedures, such as using lasers to clear blocked arteries or perform surgery on the retina of the eye.

This field represents a national market of more than \$50 million annually, with a recent growth rate in excess of 10% per year. Florida, especially South Florida, enjoys a leadership role in related commercial enterprises.

Cooperation in Miami

The major existing programs within Florida universities are located at the University of Miami, Florida International University, and the University of Florida.

The University of Miami's well established department of Biomedical Engineering offers degrees through the Ph.D. Research and development work at the University of Miami includes biomedical devices, artificial organs, medical instrumentation, and biotechnology with potential commercial application. Ties have been established with industries in Southeast Florida and throughout the United States.

The program at the University of Florida emphasizes basic research, particularly related to biomaterials, while the program at Florida International University emphasizes applied research, particularly related to instrumentation and devices.

In addition to approximately five regular members of the University of Miami Biomedical Engineering Department, there are approximately 22 adjunct faculty from industry and private practice, and 10 full-time faculty with secondary appointments. Research activities are budgeted at over \$750,000 per year. A large number of projects at the University of Miami Medical School are also device- and technology-oriented. Expansion, including the filling of an endowed chair, is planned for the near future.

Florida International University has committed approximately 20 engineering faculty in medical engineering, biomedical or biotech activities. Major emphasis has been in the area of medical instrumentation and information systems, diagnostic and therapeutic devices, artificial organs and prostheses. Florida International University has initiated efforts to establish the Biomedical Research and Innovation Center in collaboration with the City of Miami.

A Tangible Benefit: Bioglass Work at UF

The University of Florida's Health Sciences Center is actively engaged in the development and utilization of biomedical devices as a major research initiative. Throughout the Gainesville campus, there are more than 100 research faculty and 200 graduate students involved in work on biomedical devices and materials. A tangible example is the success in developing a product called bioglass, an inorganic material which bonds with human bone tissue. Developed at UF, bioglass has been used to reconstruct the inner ear and restore hearing to totally deaf patients treated by surgeons at Shands Hospital on the campus. Federal funding exceeds \$10 million annually in the biomedical area at UF. A 240,000 square-foot physical expansion of the Health Sciences

Center, to be completed in 1989, will include space for expanded work in biomedical services and technology.

Florida Atlantic University has four projects underway in biomedical devices with a major emphasis on early detection of atherosclerosis. Approximately six faculty members from the Departments of Electrical Engineering, Biology, Mathematics and Psychology, and five graduate students are participating.

The University of South Florida has committed five faculty and two graduate students to research on biomedical devices. Approximately \$94,000 in total awards from external contracts or grants have been received.

The University of Central Florida is developing an oculometer device and conducting research in the areas of hearing aid technology and biomaterials.

2. Biotechnology

Biotechnology is the technological application of knowledge gained in research on life processes. Its areas of economic importance are broad – and include health care and maintenance, plant agriculture and forestry, animal agriculture, marine industries, food processing, and environmental applications. These fields parallel the interest and projects of many of the technological industries currently in Florida.

University-Based Research for Economic Development

This field includes the use of genetic engineering to generate commercially useful microorganisms, plants and animals; and the application of molecular genetics and immunology to the pharmaceutical industry and development of diagnostic procedures.

Perhaps more than any other high technology endeavor, the origins and much of the current biotechnological activities are university-based throughout the United States. Several Florida universities have initiated quality programs in one or more of the fields listed above. The four major research activities in biotechnology are based at the University of Florida, Florida State University, the University of Miami, and the University of South Florida. These undertakings provide broadly based academic programs in medical, agricultural, environmental and marine biotechnology. Florida programs, however, are geographically diverse. By contrast, over a dozen states have concentrated their

activities by establishing biotechnology centers affiliated with one or more of their state universities.

The University of Florida conducts research in biotechnology in the agricultural, medical, veterinary, biology, and engineering fields. More than 125 faculty members and 300 graduate students are engaged in these activities. A recent program review by nationally recognized consultants rated the biotechnology program of the Institute of Food and Agricultural Sciences among the top six in the nation. Current research, funded at approximately \$15 million per year in sponsored research, includes studies in monoclonal antibodies, bioglass, plant and animal improvement, arthropod research, botany, and zoology. Funding to establish a Biotechnology Research Institute is currently being sought. Industrial sponsorship for the Institute has been obtained. UF also operates a large, strong, and interrelated life sciences program.

The University of Miami School of Medicine has committed approximately 20 full time faculty to research in Immunology. Another 35 use state-of-the-art immunological techniques in research. Ten full time faculty are molecular biologists and at least another 15 regularly use molecular engineering techniques in research. The total federally supported research activity in biotechnology and biomedical devices at the medical school amounts of \$10 million per year.

The University of South Florida has dedicated approximately 45 faculty and 29 graduate students to a wide variety of biotechnology-related studies. Nearly \$5 million in sponsored research has been obtained so far. A new Institute of Molecular Biology and Biotechnology has been established, and research and development in the biotechnology area will become one of the strongest technological activities at USF. A new endowed chair and a 100,000 square-foot building are planned.

Basic Research Is Centered at FSU

Florida State University is active in biotechnology through research programs in the basic sciences of genetics, biochemistry, and immunology (organized through the Center of Multidisciplinary Biotechnology), and bioprocess engineering pursued in the FAMU/FSU College of Engineering. Specific research and development areas include monoclonal antibodies, molecular probes in medical diagnostics, fusion of plant cells, and high pressure processing of microbial and mammalian cell cultures. Approximately 27 faculty members and more than 60 graduate students and other individuals are currently involved in the projects funded through contracts and grants.

The University of Central Florida has developed an active research program in fermentation, enzyme production, and computer applications. UCF researchers

are developing skills in recombinant DNA technology, and are working on a variety of related projects in the Biology Department.

Florida Agricultural and Mechanical University, in addition to its role through the FAMU/FSU College of Engineering, is engaged in research in the synthesis and crystallographic analysis of anti-cancer compounds, currently being conducted by two researchers in the Chemistry Department. Two additional faculty are involved in the synthesis and classification of other biological compounds for the treatment of human disease.

At the University of West Florida, three faculty and 40 graduate students are studying nutrient deprivation, and the synthesis and characterization of hormones, with support from Sea Grant, the National Science Foundation, and industry, and in cooperation with FSU, the University of Michigan, the University of Arizona, the University of Bonn, and Reed College. Florida Institute of Technology is developing a biotechnology program emphasizing plant tissue culture with a current nucleus of three faculty and 10 graduate students.

3. Software and Computer Science

Computer Software and Computer Science have experienced a period of explosive growth, both in educational and commercial utilization. The State Universities and many of Florida's high tech industries require more personnel with computer-related skills than ever before. Florida's universities must produce many of the skilled employees the future will require.

Software and Computer Science includes advanced methods of preparing efficient and low cost software as well as new computer concepts. California and Massachusetts have been leaders in the computer field. The State University System of Florida operates many programs directly resulting from this technological and industrial pull, as well as self-initiated ventures - including the new Supercomputer Computations Research Institute (SCRI) at Florida State University - demonstrating how important Florida's universities consider this area to be.

At FSU, The World's Fastest and Largest Computer

Florida State University operates a computer science program as well as the SCRI effort. The university is actively pursuing major efforts in the areas of artificial intelligence, software engineering, and expert systems and robotics. Approximately 12 faculty and nearly 100 graduate students work in this area. The department has developed outstanding strength in artificial intelligence, an

area in which significant growth is expected. SCRI, a major new organization, develops new techniques in the use of supercomputers in many disciplines. Now in its second year, the SCRI staff has grown to approximately 60 people with skills and interests including, but not limited to, aerodynamic sciences, toxic waste behavior in underground aquifers, global meteorology, planetary atmospheres, cancer development studies, the physics of elementary matter, economic modeling and the mechanisms of human characteristics. Using an obsolete supercomputer now being upgraded and replaced, an FSU scientist modeled the "El Nino" planetary weather system, earning a major international scientific award. SCRI currently obtains funding from the Federal Department of Energy, and the State of Florida.

In early 1987, SCRI began installation of the world's first Class VII supercomputer – the ETA 10, the fastest and largest computer on earth. This unique facility is available for, and benefits from, collaborative and independent uses by computer specialists in industry and universities throughout the United States. With the arrival of the ETA 10, Florida possesses a world class installation, rivaled by only a few major universities and National Laboratories. In addition, the installation of a superconducting linear accelerator in March 1987 will give FSU scientists a unique ability to utilize the ETA 10 in nuclear research.

Pathfinding Research at UF

The University of Florida is conducting pathfinding research in computer software and science in the areas of database research, artificial intelligence and software systems and engineering. Approximately 25 faculty and 135 graduate students contribute to the work. On a national scale, the work at UF is ranked very highly in the areas of database research and in signal and image processing, two areas which will be emphasized in future development. UF and Purdue University have jointly established the Software Engineering Research Center, sponsored by the National Science Foundation through its University-Industry Cooperative Research Program. It is supported by 11 industry affiliates at \$330,000 annually.

The University of Central Florida currently commits 10 faculty and 79 graduate students with over \$1.2 million in sponsored research. Current research activities include fault-tolerance studies, satellite tracking, 3-D modeling, biomedical engineering, and other areas. An additional 30 faculty work in related fields. Another 35 faculty and 50 graduate students work in the Computer Science Department and in computer-related activities in the College of Engineering. Research targets include software engineering, signal and image processing, artificial intelligence, monitoring, control, and simulations.

Florida International University, through its comprehensive computer science program, offers degrees through the doctorate. Currently, 12 faculty and 45

graduate students pursue research interests in software engineering, artificial intelligence, simulation and distributed systems.

The University of Miami has approximately 10 faculty and 50 graduate students in computer software/science areas. Research activities are in computer vision, image and signal processing, robotics, expert systems and very large scale integration (VLSI) design. At the Rosenstiel School of Marine and Atmospheric Studies, UM researchers have developed extensive capabilities for remote sensing and acoustics.

Florida Atlantic University actively conducts research in computer software in several areas, including six faculty and more than 100 graduate students. A new Computer Science Department is being formed.

The University of West Florida has committed three faculty and several hundred graduate students to research and applications of ADA for control theory, computer models of human vision, and software engineering for artificial intelligence.

4. Lightwave Technology and Related Materials Science

In 1948 researchers at Bell Laboratories developed the transistor, a revolutionary, industry-building device for which they received the Nobel Prize for Physics.

By 1960, the integrated circuit – the computer "chip" – made its appearance, and soon swept aside all but a few applications of vacuum tubes. Now the next wave of technology, a marriage of light and new materials known as electro-optics, may well overthrow the silicon revolution and stimulate still new products.

Today the laser, an important component in electro-optics technology, has applications as sophisticated as measuring the distance between orbiting satellites, and as down-to-earth as computing grocery bills. It is the centerpiece of an ever widening spectrum of independent, original, and industry-creating applications.

This field includes lasers, infrared sensors, propagation phenomena, special materials for light detection and transmission, optical devices and unique electronic devices.

Orlando: One of the World's Great Technology Centers

Florida's electro-optic and lightwave technology industry is one of the fastest growing among all states. The Orlando area, in particular, has one of the highest concentrations of optical technology companies in the world. Major institutions in electro-optics and lasers on a national scale are the Universities of Arizona, Michigan, Rochester and Illinois, MIT, Harvard and Georgia Tech.

While universities and industries are joining these rapidly swelling civilian and defense activities throughout the United States, Florida has a privileged position in terms of industrial enterprise. This presents special opportunities -- and responsibilities -- for Florida's universities. The major programs to emerge are now located at the University of Central Florida, the University of Florida, and the University of South Florida. The Center for Research in Electro-optics and Lasers (CREOL) is a collaborative program of these three universities. The Center was created by the Legislature with a \$15 million appropriation in 1986 and is supported by the Florida High Technology and Industry Council at approximately \$290,000 for UCF, \$92,000 for UF and \$90,000 for USF in applied research funding.

The University of Central Florida's Department of Physics and Mathematics and its College of Engineering currently are engaged in research and development of electro-optics and lasers. Approximately 20 faculty and staff and more than 20 graduate students are involved in projects including laser preparation, sensors, optical and image processing, nonlinear optics, scintillation and fluctuation phenomena, and diode pumping. The CREOL program will represent a major increase in electro-optics and lightwave technology for UCF.

The University of Florida has five faculty and more than 20 graduate students in lightwave technology. Major technical areas are glasses and III-V compound devices, with planned expansion into device and process modelling for manufacturing technology. The Photonics Research Laboratory, with \$1 million in funding from the FHTIC, the U.S. Air Force Office of Scientific Research and the National Science Foundation, emphasizes commercialization of compact solid-state laser systems.

Florida State University has approximately 13 faculty members and 25 graduate students working in lightwave or laser related areas in the Chemistry and Physics Departments, and the FAMU/FSU Engineering School. A Laser Spectroscopy Laboratory, funded at a level of \$700,000 by state and federal sources, houses a wide variety of equipment. Laser technology is used in chemical reaction analysis, structural studies of polymers, ultrafast laser pulse studies of saturable absorbers in the visible and infrared spectra, and the

development of laser speckle and particle image displacement velocimetry.

At the University of South Florida, four faculty and 24 graduate students are engaged in lightwave related research including crystal fiber growth, non-linear optical phenomena, and sensory development. Total awards received amount to almost \$1 million.

Florida Atlantic University currently has three faculty and three graduate students applying laser technology to underwater obstacle detection, imaging, and the measurement of depth and motion.

Florida Institute of Technology operates a program in acousto-optic signal processing and optical computing with two faculty and three graduate students.

5. Microelectronics and Related Materials Sciences

Microelectronics and Related Materials Science includes the design and testing of highly miniaturized electronic devices - for example, chips - as well as manufacturing techniques, and the synthesis of special materials needed for new device concepts.

Microelectronics is one of the largest educational and research areas in Florida's engineering schools, and still one of the fastest growing. It is neither independent of, nor easily separated from, several of the other high-tech areas covered by this report. Ever increasing technological applications are successfully incorporated by such microelectronic devices.

UF Preeminent

The University of Florida is preeminent among Florida institutions, with a faculty of 12, and approximately 30 doctoral students, and over \$1.5 million dollars in annual research funding. The recently established Integrated Electronics Center will focus on physical modeling and characterization of semiconductor devices, materials, and circuits. UF has received some major funding awards and is a national leader in modeling of bipolar and silicon-on-insulator devices and circuits.

New Center at USE

The University of South Florida's new Center for Microelectronics Design and Test, funded by the State of Florida at \$850,000 in 1986, is a major statewide facility. Cooperation with FAU, UCF, and UF is underway. An additional 6-8 faculty are funded by nonstate agencies at a level of about \$300,000 for work

in electromigration, microwave applications, interconnect testing, and product development. Twenty four graduate students support these efforts.

The University of Central Florida has dedicated approximately a dozen faculty and 14 graduate students in microelectronics technology. Areas of work include surface acoustic wave devices, circuit design and testing in one of a very few "clean rooms" on a university campus anywhere, a facility in which students can actually manufacture chips of their own design.

Florida International University has committed approximately a half dozen faculty in system design and signal processing.

The newly formed FAMU/FSU College of Engineering employs five faculty in Electrical Engineering with expertise in microelectronics. Current activities include contactless testing of integrated circuits.

The University of Miami has five faculty members in microelectronics and related areas. Current research includes VLSI circuit design and testing, electronic circuit design, and computer simulation.

Florida Institute of Technology conducts research in microelectronics and operates a solid state devices and optics research laboratory, with two faculty members and seven graduate students.

6. Computer Integrated Manufacturing/Robotics

One of the most direct applications of computers to industrial productivity is in the use of robotics. However, the successful development of robots requires knowledge and advances beyond the building and running of a general purpose computer. Manufacturing, in a broader sense, can be an enormously successful economic testing ground for the applications of new processing sciences and new measurement, control and testing methods.

Computer Integrated Manufacturing, a closely related topic, focuses on uses of computer driven tools and processes, automation and robotics to improve manufacturing techniques in high technology industries. Leading educational institutions in these areas are Carnegie-Mellon, MIT, and Stanford.

The University of Florida has seven faculty and 44 graduate students in these areas. Major expertise exists in teleoperation of robots, hybrid control theory, and joystick manipulators. The Center for Intelligent Machines and Robotics is

expanding, and a new Center for Advanced Manufacturing Technology is planned.

Florida Atlantic University operates an interdisciplinary Center for Control Systems and Robotics, with nine faculty members and 11 graduate students committed to research. The areas of expertise include clean room robotics, robotic vision systems, and robot metrology. The Robotics Center operates with \$400,000 in sponsored research and \$720,000 in equipment grants in industry. Further research has come from a collaborative partnership with Carnegie-Mellon University for applications of artificial intelligence to the development of autonomous mobile robots. A 3,000 square-foot robotics laboratory is planned for the new Science and Engineering Building.

The University of Miami offers Bachelor's and Master's programs in Industrial Engineering with concentration in Manufacturing Engineering. Eight faculty members, 11 graduate students, and 3 laboratories are involved in robotics related research. Research support was more than \$100,000 in 1985.

The FAMU/FSU Mechanical Engineering Department has a Robotics and Control Laboratory under development. Four faculty will focus on multiple arm, multiple task robots. The Chemical Engineering Department is concentrating on twin screw extrusion.

The University of South Florida has approximately five faculty and 39 graduate students working in robotics in Chemical/Mechanical Engineering, Computer Science, and Industrial and Management Systems.

Florida Institute of Technology has committed four faculty members in robotics research.

7. Simulation and Training

More than 100 central Florida companies are in the business of simulation and training. This amounts to the largest concentration of this industry in the world.

This knowledge/industrial complex provides contractual services in the amount of \$340 million per year. The annual rate of contract growth exceeds 30%. This installation puts great demand on educational output and offers a rapidly growing area in high technology development.

This field includes devices, and their computers and software, needed to

enhance the ability to simulate performance and assess operation of large, complex systems without (expensively) exercising systems in operational environments. Just as important, this field also includes methods and hardware to improve operator training. Both simulation and training are particularly important in military systems where costs of training can be very high.

Institute for Simulation and Training at UCF

The University of Central Florida operates the Institute for Simulation and Training with an annual level of funding of \$2.5 million and a full-time equivalent manpower level of approximately 50. Areas of research include interactive simulator/trainer technology, instructional technology, human factors, database research and development, and artificial intelligence.

Florida State University has a strong history in training technology and is now developing a high-technology focus. Approximately 10 faculty are involved in a variety of programs including educational psychology, tacit knowledge, computer-aided intelligence, and problem solving skills. Multi-million dollar contracts are in place.

The University of South Florida has four faculty and 36 graduate students in programs involving simulation of various time series, and evaluation of sensors and courseware. Approximately \$2 million in total awards has been received to date.

Materials Science

Virtually all high technology fields described here owe their origins, or their success, in some way to new materials or new processing methods. New technologies depend upon new materials. Materials science thus pervades the scientific birth to commercial product cycle at all points.

The most widely known of these successes lie in the fields of electronic materials, the impact on metals and the rapidly growing areas of ceramics and polymers. These fields are developing in an environment of rapid, competitive growth. In extending high-tech applications, in durability enhancements of conventional materials, and in the search for new phenomena leading to new technologies, materials and their properties will either facilitate - or impede - success.

Several states closely associated with spurring innovations and economically important technologies have recognized the importance of materials science by special emphasis and support, notably California, Texas, Massachusetts, Pennsylvania, North Carolina and Ohio. In 1985, the Florida Legislature began

funding programs of growth in materials science at the University of Florida and Florida State University. Current funding levels are approximately \$1.7 million at UF and \$1.25 million at FSU.

UF, FSU Cooperate in Materials Science

At UF, the program is called Microfabritech, and emphasizes opto-electronics, another name for electro-optics. At FSU, the program is named MARTECH (Materials Research and Technology) and concentrates on novel synthesis and modification of materials in a variety of classifications. Both programs will examine compositionally modulated materials, an innovative form of atomically engineered materials which opens new doors of materials performance – not unlike what genetic engineering is doing for biological materials. Other new materials and processes now emerging from research represent a wellspring for tomorrow's new technologies. Their discovery, elucidation and application are the objectives of this joint program.

The Microfabritech/MARTECH programs are both committed to the sharing of knowledge and equipment with industry. These programs provide a firm support for emerging technology in Florida.

III. Five-Year High Technology Research Plan

Goals

The 1986 Legislature directed the Board of Regents and the High Technology and Industry Council to develop a five-year high technology research plan. The goals of this plan are:

- Promoting national competitiveness in world economic markets by development of state-of-the-art technology in Florida.
- Expanding high technology industry in Florida by supporting research, development and commercialization in fields in which the state has or can earn a competitive advantage.
- Developing university science and technology programs of international distinction to provide high quality scientists and engineers, as well as basic and applied research programs in support of high technology industrial development.

Planning Principles

Achievement of the goals of the five-year plan will require the coordination of activities of diverse agencies of the state and federal governments and private industry in Florida. Such coordination can only be achieved by the adoption of mutually accepted planning principles. To be effective, these principles should guide rather than limit decisions. Their implementation should be monitored and reported on annually to decision-makers and the general public.

The Five-Year High Technology Research Plan encourages decision-makers in the executive and legislative branches of the state and federal governments and in private industry to adopt the following planning principles to guide their decisions related to high technology research:

1. Focus research in technology areas identified as high in potential for expansion of the Florida and national economy.
2. Leverage state research support with matching funding from the Federal government and private industry.
3. Support relevant research at all levels - from basic research, with a particular emphasis on materials science, through applied research and product development to commercialization.
4. Encourage joint research programs involving faculty of multiple universities to exploit synergistic research skills, to avoid duplication of expensive laboratory facilities and to promote involvement of industry.

Promoting Interinstitutional Cooperation

Florida's high technology industry and the supporting science and technology programs of its universities are geographically dispersed. To seize the advantages of this dispersion - and to overcome difficulties which it causes - interinstitutional communication and cooperation are critical components of Florida's Five-Year Plan for High Technology Research.

Collaborative research efforts cannot be imposed successfully "from above," whether the directing force is a funding agency, governing board or the Legislature itself. Successful collaboration can only be achieved by promoting communication among practicing professionals in universities and industry.

The Five-Year Plan calls for the Legislature, the Board of Regents and the High Technology and Industry Council to promote joint research ventures by doing three things: Conducting an annual statewide forum on high technology problems and solutions; establishing a rotating state university chair in high technology; and rewarding cooperative proposals with preferential treatment in funding decisions.

In detail, the program calls for:

1. Conducting at least annually a statewide forum on high-tech problems and solutions. The forum would bring together university researchers and industry representatives to promote exchange of viewpoints to promote research and development in targeted fields. The format would be designed to allow large numbers of people to make brief presentations to a large audience with follow-up sessions arranged among interested parties. Presentations could focus on problems, discoveries, industry needs, or investment interests. The desired results would be submission of collaborative research proposals, venture capital solicitation, and other similar collaborative projects.
2. Establishing a rotating state university chair in high technology for a distinguished senior level scientist, engineer or administrator from a Florida high tech firm. The appointment would be time-limited (six to 12 months) during which the chair holder would take a leave of absence from the employer. The awardee would select a host university but would be encouraged to visit other campuses in the state with strengths in the relevant field of expertise. The purpose of the chair would be to exchange knowledge between the industrial and academic sectors, to promote communication among universities and to promote development of collaborative industry-university research proposals and joint ventures.
3. Providing preferential treatment for joint research proposals in competitive review processes for selection of research proposals, venture capital requests and other requests for funding. By rewarding cooperation, the Plan seeks to encourage independent researchers and institutions to work together synergistically.

Implementation of the Applied Research Plan

The applied research plan implementation should follow a version of the procedure used successfully by the FHTIC in previous efforts, and could be a direct extension of these efforts.

Selection of programs to be supported will be made on the basis of competitive solicitation of proposals from universities in the seven key topical areas, with award criteria as follows:

1. The potential for significant commercialization of the results of the proposed research project and/or potential economic benefit to the State.
2. The established record of research, development and instruction in the area or areas of technology involved in the application.
3. A commitment of new private or federal governmental funding for the proposed project in an amount equal to or greater than the support sought from the Council or the State of Florida.
4. The ability and willingness to cooperate with other institutions in Florida in conducting research and development activities and in disseminating research results.
5. The ability and willingness to cooperate with the Council and other economic development agencies in promoting the growth and development in Florida of industries based upon or benefiting from the area or areas of technology involved.

The FHTIC subcommittees will be the evaluation groups in their respective specialties. The academic members of these groups will carry the major responsibility of ranking proposals on criterion Number Two (with due regard to avoid potential conflict of interest circumstances by having a member of a university staff rank a proposal by a colleague). The FHTIC staff will issue the requests for proposals.

Proposals will be solicited in three categories:

- Planning - a proposal for an extended study of the plausibility of an idea. A specific product would be a detailed proposal for the next phase.
- Development - a proposal to demonstrate feasibility, via theoretical or experimental proof. Requires indication of support by industry for the next phase, contingent upon success of the development phase. Industry participation is encouraged, via data transfer, consulting advice and application suggestions.
- Operational - a proposal to exploit a concept with a direct path to some level of commercialization. Industry cosponsorship in funding, equipment or otherwise is required. Certain positive results of these phases will be recommended to the Venture Capital Committee for further exploitation.

The subcommittees will periodically review the programs in order to assess progress, recommend future actions and evaluate continuation or termination of the programs. A set of measures will be developed to this end.

An annual update of the Five Year Plan, with a report on results of appropriations, will be prepared jointly by the BOR and FHTIC and submitted to the Legislature.

Support for Basic Research

All applied research and development activities are made possible by knowledge discovered as the result of basic research activities in the sciences. Products as varied as computers, communications satellites, telephones and lasers would not exist had basic research not contributed to their development. Since most basic research is not product-oriented and is exploratory in nature, private industry does not often provide direct support for these activities. Declining support from the federal government for basic research places an increasing burden on state government to meet this critical responsibility.

The Florida Legislature has demonstrated its recognition of this problem and has responded by appropriating funds for support of basic research in materials

science in each of the past two years. To extend this support into other areas that are related to high technology development, this plan calls for establishment of a recurring appropriation for basic research.

The principle of leveraging state support with matching funds applies to basic research funding as well as to funding for applied research. In the first year of the plan, a portion of the funds appropriated would be earmarked to support the establishment of a National Biotechnology Research Center in Florida, by leveraging the state funds with Federal funds available from sources such as the National Science Foundation program to support biotechnology research. The NSF has budgeted \$8 million for 1987 and expects similar support for 1988. Commitment of state funding would markedly enhance the prospect of establishing the first National Science Foundation designated research center in the State.

Distribution of the proposed basic research state appropriation will be based upon the principle of leveraging state dollars. Funds will be allocated to match sponsored contract and grant research awards for new research activities in amounts exceeding the requested state support.

Recommended State Appropriations

State financial support is the foundation of the five-year plan. It will stimulate additional financial support from the Federal government and private industry. A stable revenue source of state appropriations is the bedrock for grant proposals and awards that substantially increase the resources available for research.

Funding research is by nature a speculative venture. Risk for the state can be minimized by targeting funding to areas of existing university strength and areas identified by the FHTIC as demonstrating potential for economic growth. Risk can and should be shared by leveraging state support with private and federal funding.

A "bottom-up" approach to developing a funding recommendation was undertaken by a process in which each of the FHTIC standing science subcommittees estimated need for state research support in each of the targeted technology areas. This process yielded a proposed funding level of \$26.6 million for 1987-88. The detailed rationale to support this level of funding will be submitted to the Legislature in a separate document prior to the 1987 Regular Session.

An alternative funding request was generated by recognition of the level of support provided by the Legislature for the recently completed five-year

engineering enhancement plan and earmarked support for high technology research. Under this approach, the Board of Regents and the FHTIC would request that the Legislature maintain its level of commitment for engineering enhancement but direct new funding toward support of research rather than increased production of trained engineers.

The five-year engineering enhancement plan has increased undergraduate engineering degrees by 50% and graduate degrees by 75% since 1982. Two hundred and thirty-two new faculty, technical and support personnel have been added to our colleges of engineering during this period.

Providing support for research can put this new capacity to work in the creation of new technology to provide the base of industrial expansion. In light of these considerations, the following funding levels are proposed for the basic and applied research programs:

	Year (\$ million)				
	1	2	3	4	5
Basic Research & Support	7.0	8.4	10.1	12.1	14.5
Applied Research Program	8.0	9.6	11.5	13.8	16.6
Total Plan	\$15.0	\$18.0	\$21.6	\$25.9	\$31.1

In the first year, this request would provide \$8 million for the targeted technology areas of the FHTIC applied research program. (This figure compares to the \$26.6 million request prepared by the STSSCs). \$2 million of the \$7 million request for basic research support would be earmarked to support the establishment of a NSF-designated Biotechnology Research Center in Florida. The remaining \$5 million would be distributed by the Board of Regents to match basic research support generated by sponsored research.

With matching support, this \$15 million appropriation could generate an increase on the order of \$50-100 million in research in support of economic development. This level of support could significantly impact high tech development and sustain Florida's rate of growth in the national economy. As Florida moves from total dependence on tourism, agriculture and construction, the development of high technology industry is a critical mission. Funding for targeted research programs of the State University System will undergird the

economic development of Florida through the 1990s and beyond, as Florida grows from the nation's fifth largest state to third largest.

At this critical moment in Florida, high technology research to promote economic development must be a top priority.

ACKNOWLEDGEMENT

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